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A.M.A. Session . NEW YORK . June 10-14, 1940

DYSPEPSIA

Digestive disorders with their presenting symptom, Dyspepsia, are among the most frequent and important problems in general practice. This *Symposium on Dyspepsia* in the July (Mayo Clinic) Number of the *Medical Clinics of North America* will, therefore, prove of unusual interest to the *Family Physician.*

This *Symposium* is a practical discussion that deals specifically with the *clinical diagnosis and treatment* of many of the most common gastric disturbances met in everyday medical practice. For example, there are clinics on Chronic Gastritis; Management of Hemorrhages of Upper Gastrointestinal Tract; Tumors and Granulomatous Lesions of Stomach and Duodenum; Abdominal Discomforts for which no Organic Cause can be found; Relation of Functional Anorexia and Functional Vomiting to Anorexia Nervosa; and Peptic Ulcer.

No less helpful to the General Practitioner than the *Symposium* are the *14 other clinics* included in this July Number. In this group are Clinics on the use of *Sulfanilamide* and Related Compounds; Recent Advances in Management of Pneumonias; Asthma and its association with Bronchostenosis; Oxygen and Helium Therapy; Diagnosis of Heart Disease; Treatment of Hypertension; Pelvic Infections in Women; Pathogenesis and Prevention of Diabetes; Use of Protamine-zinc Insulin; Nonspecific Therapy of Syphilis, etc.

Yes, the *Medical Clinics of North America* are more and more *actual postgraduate teaching* applied to office and bedside practice.

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COLLAPSE THERAPY AT CHICAGO MUNICIPAL TUBERCULOSIS SANITARIUM

A CRITICAL STUDY OF 8,083 CASES

FREDERICK TICE, M.D.

AND

ALLAN J. HRUBY, M.D.

President and Secretary, Respectively, Board of Directors, City of Chicago Municipal Tuberculosis Sanitarium

CHICAGO

In the May 7, 1938, issue of THE JOURNAL, under Current Comment,[1] with reference to an article on fatality trends by G. D. Drolet, the commentator expressed surprise at Drolet's conclusion that the surgical treatment of pulmonary tuberculosis had little effect on the case fatality rates of the tuberculous population. "This constitutes a surprising statistical conclusion in view of the apparent individual effectiveness of such measures as pneumothorax. Further analytic studies should be made before it can be safe to conclude that therapeutic measures in pulmonary tuberculosis are as ineffective as they appear to be statistically." We are in complete agreement with this sentiment and wholeheartedly endorse the necessity for further analytic studies on collapse.

Such a study is offered in this paper, a study of all the patients treated with collapse who were registered at the City of Chicago Municipal Tuberculosis Sanitarium from Jan. 1, 1931, to July 1, 1936, and observed to July 1, 1937. In all, 8,083 patients were examined: 3,090 treated more than three months, 337 treated less than three months, 330 for whom pneumothorax was attempted, 742 whose records were thrown out as not sufficiently complete for compilation and 3,584 controls, a group made up of persons dismissed from the Sanitarium as a routine, persons who refused pneumothorax or for whom it was attempted, patients with adhesions and patients obviously so noncooperative that collapse was contraindicated. The treated patients were all subjected to some measure of collapse, either at the Sanitarium proper or at the field collapse clinic, and the number includes all who received treatment at both the clinic and the Sanitarium under the plan of conjoined extramural and intramural collapse as practiced over the period in question.

A word as to this conjoined plan. The Sanitarium and the dispensaries, unified as to function and objective through one board of directors, cooperate toward a general collapse program. The organization as a whole still adheres to the principles originally formulated in 1931, collapse for all suitable patients inside the Sanitarium (68.8 per cent of the total population at the present time), collapse for all reachable patients outside the Sanitarium from the initial injection onward (1,428 patients under observation and treatment), dismissal of Sanitarium patients as soon as possible, admission to the Sanitarium of such field patients as fail to respond or in whom complications develop, and supervision in the home facilitated by a staff of 142 field nurses who visit patients after their injections and make frequent calls to insure compliance with the pneumothorax schedule.

The accompanying chart indicates the locale of treatment for the 2,824 patients subjected to collapse in the six and one-half year period.

As will be seen, 39.8 per cent of the patients were treated exclusively at the Sanitarium and 23.4 per cent exclusively at the clinic, 7.4 per cent started at the Sanitarium and finished at the clinic, 8.8 per cent started at the clinic and finished at the Sanitarium, 9 per cent started elsewhere and continued at the clinic or Sanitarium, 4.2 per cent started at the clinic and finished at the Municipal Home for the Open Case,[2] 3 per cent started at the clinic and finished at other institutions, and 4.4 per cent started at the Sanitarium and finished at other institutions.

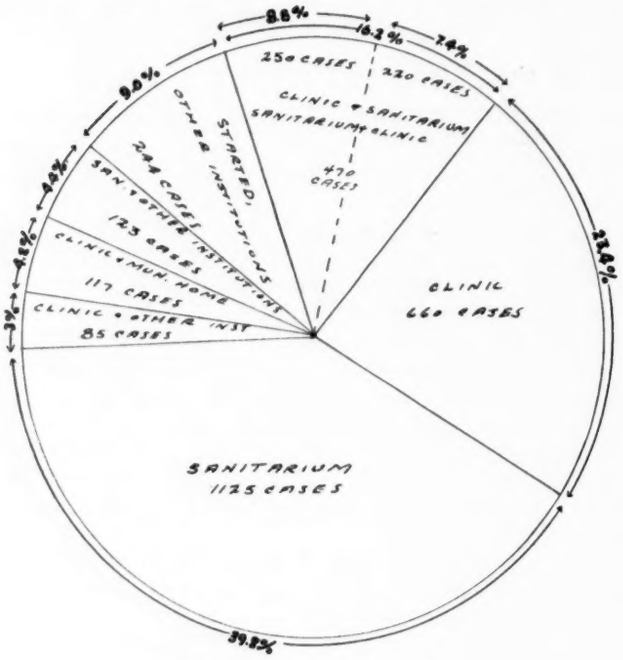
The technic of the survey included recent x-ray examination and reexamination of all patients under treatment and the same or the equivalent for all dismissed patients brought within reach by the following measures: nurse's visit to the home to bring in the patient for reexamination, nurse's investigation of the neighborhood to locate lost patients, similar investigations in other dispensary districts for patients who have moved, gas company and postoffice inquiries, letters, sent first class to the last known address, and letters and questionnaires to private physicians, to patients out of town and to other institutions. Of the treated patients, 89.3 per cent of the Sanitarium patients were traced and fully studied, as against 93.7 per cent of the clinic patients and 92.5 per cent of those who received treatment at both the clinic and the Sanitarium. In view of the circumstances and the volume, these figures, a total of 8.6 per cent lost of 3,090 patients, are considered satisfactory.

In American cities, tuberculous patients of the type cared for by the City of Chicago Municipal Tuberculosis Sanitarium are notoriously hard to keep track of. The overwhelming majority are in the lowest socioeconomic brackets and present the usual difficulties incident to those levels. Despite the most thorough follow-up they discontinue treatment, move, hide and

1. Present Trends of Fatality in Pulmonary Tuberculosis, Current Comment, J. A. M. A. **110**: 1611 (May 7) 1938.

2. A 265 bed annex to the City of Chicago Municipal Tuberculosis Sanitarium, designed and operated to care for the ambulant patient in an infectious state removed from contact with children under 16.

leave town, seeking, with the restlessness of their type, the panacea of Arizona or even more deceptive will-o'-the-wisps. The migratory worker with his lung collapsed feels confident that he is cured and follows the harvest. The railroad laborer, similarly situated and motivated, goes back to his gang. At the first snowfall



Distribution of patients treated.

the patient of the hobo type believes that he will do better in a sunnier clime and hops a boxcar for the south.

We do not mean to intimate that the Arizona-bound hobo and the railroad laborer constitute the bulk of our patients. Actually they form but a comparatively small margin. The margin, however, is appreciable and objectivates itself in a minimum number of patients who absolutely cannot be traced by any technic short of some system of national registration and passport.

In the control group, including a large percentage of patients with minimal involvement (562, or 16 per cent), for reasons already given and other reasons to be discussed, the proportion of untraced patients rose considerably higher, an average of 15.9 per cent. A large fraction of the patients lost were patients with incipient tuberculosis, a type difficult to control or supervise. Minimal tuberculosis in an institution with 1,467 beds and a dispensary roll of 20,000 patients with tuberculosis is a fluctuant quantity. Notwithstanding a well trained and conscientious staff, "busy day diagnoses" creep on the records: nontuberculous conditions, hyperthyroidism, anemia, heart disease, bronchitis, silicosis, sinusitis, bronchiectasis, innocuous tuberculous conditions, hazy apexes and suspected tuberculosis. These patients, in other words, are the chaff of the clinic, who need little treatment, collapse or otherwise, and react to indifference by disappearance.

The force of this reaction became very evident as the investigation progressed. The patient who received treatment could be kept under supervision; the longer the treatment, the closer the tie. The patient with minimal or nontuberculous involvement in need of no special care drifted off and came, as indicated, to form a considerable proportion of the lost controls.

As far as collapse is concerned, it is necessary to say here and now that the control at best forms a doubtful equation. In a disease as protean and unpredictable as pulmonary tuberculosis, it is impossible now, and always will be, to set off against each other any two groups of cases with identical or even similar diagnostic facets and prognostic ideologies. No two cases are alike. Even if they were alike today, one has no assurance that some weeks or months hence they will not be as far apart as cavity and cicatrix. Even within the limits of one organization the control is a hurdle, a stumbling block in the path of exact comparative analysis.

The problem becomes still more acute, the stumbling block more discouraging, when one goes outside one's own institution and attempts to mold one's measuring rod from a conglomerate of unfamiliar and dissimilar material drawn from different sources, as represented by questionnaire studies from various institutions, compilations from the literature and the establishment of criteria on the basis of presumptive morbidity against the official mortality tables. The latter procedure, recently practiced both here and abroad, to the detriment of a true understanding of the results of collapse, is especially deceptive. Morbidity is an unknown quantity, the case report a creature of its environment and the figures presumptive. In attempting to balance the tuberculosis mortality of today against the morbidity of ten or twenty years ago, one encounters a host of variables, intangibles and imponderables—the report as influenced by propaganda, campaign activities, public health leadership, legislation and the enthusiasm of a new organization, the special surveys incident to the establishment of a sanatorium, and the changing diagnostic attitudes that every one knows have been a feature of the tuberculosis picture during the last two decades. The true incidence of tuberculosis is one thing and the reported incidence another, and both phases of the question are subject to modifying influences that destroy the value of morbidity as a base.

An estimation of the results of collapse based on sanatorium mortality ratios in the precollapse era as compared with those current at this time stands on an equally precarious footing. The measuring rod possesses some of the flaws already mentioned and has a few more individual to itself, i. e. the competition for beds, the lessened incidence of tuberculosis with more actual and relative sanatorium accommodations now than formerly, permitting entrance of a greater number of patients in advanced stages, the recent trend of patients with advanced tuberculosis toward the sanatorium for collapse, and changing policies, as determined by the personality of the officers and changing administrations affect the admissions. The admissions regulate the deaths; the number who die will depend on the composition of the material at the gate.

In the present investigation, in addition to the patients for whom pneumothorax was attempted and patients not subjected to collapse, another control was used.

TABLE 1.—*Present Status of 7,341 Patients*

		Living		Dead		Untraced	
		No.	%	No.	%	No.	%
Treated more than 3 mo....	3,090*	2,142	69.3	682	22.1	266	8.6
Treated less than 3 mo.....	337	113	33.5	175	51.9	49	14.6
Pneumothorax attempted..	330	130	39.4	146	44.3	54	16.3
No collapse.....	3,584	1,184	33.0	1,831	51.1	569	15.9
Total, all patients.....		3,569	48.6	2,834	38.6	938	12.8

* Including permanent collapse procedures as well as pneumothorax.

The final and perhaps the most satisfactory assay of the results of collapse was made against the life expectancy of patients with open tuberculosis as authenticated by the records of the Sanitarium and dozens of reports of unanimous context in the literature.

The rationale seemed good. Open tuberculosis holds the substance of this entire report. The material for treatment was bad, 94.2 per cent with advanced tuberculosis, 84.4 per cent with positive sputum and 81.3 per cent with cavity formation. Included in the survey were 439 Negroes (14.2 per cent), who must be considered against their relevancies, the existent tuberculosis mortality in Chicago, a ratio of 6 to 1 in comparison with that for the white race.

With this picture as an index of expectancy, what were the actual results? Table 1 gives the first split. The table shows that 69.3 per cent of the 3,090 patients treated more than three months were living at the date of the report. Of the remaining 4,251 (treated less than three months, pneumothorax attempted, no collapse) 1,427, or 33.6 per cent, were living, which indicates a survival ratio of better than 2 to 1 in favor of the treated patients.

Table 2 epitomizes the end results with 2,824 treated patients as against 3,579 controls, a total of 6,403 traced patients. The table is self explanatory and portrays a sharp differential in the better clinical classifications as between treated patients and controls. The number dead of the patients treated more than three months is considerably less than half that in the other groups.

The City of Chicago Municipal Tuberculosis Sanitarium since its inception has been oriented toward public health aspects of tuberculosis. Open tuberculosis is now and always has been strictly regulated, and isolation of the carrier from children is mandatory. With this background, needless to say the conversion of sputum comes in for considerable attention.

Table 3 deals with the living patients from the standpoint of the conversion of sputum. This table, though it shows a differential of over 16.2 per cent in favor of the treated patients as against the "no collapse" patients, does not tell the story. Only the living patients were studied, and the much higher mortality for the "no collapse" patients (60.7 per cent, against 24.1 per cent) distorts the end results. The smaller the number of survivors, the less significant the ratio. A more correct impression is received by comparing the 337 conversions for "no collapse" patients with the 1,215 conversions for patients treated more than three months. A comparison with the previous table and a simple calculation will make the situation clearer still. If we had not eliminated the dead but had based the conversions on total patients, we would have had a conversion ratio of 51 per cent for the treated patients as against 13.8 per cent for the controls.

Table 4 has to do with the stage of disease as crossed against end results. The 6,403 completely traced patients were studied. The term initial diagnosis as used in the table signifies for the treated patients diagnosis at the time collapse was started and for the controls diagnosis on registration in the dispensaries or admission to the Sanitarium.

In the group with minimal tuberculosis, the difference of 3.6 per cent between the treated and the untreated patients is interesting. The much larger number of patients with minimal tuberculosis in the control group must be taken into account, as must the "busy day diagnoses" already referred to. In an institution that sincerely advocates collapse for early tuberculosis, the percentage of patients with minimal tuberculosis among the controls is significant. Undoubtedly many of these patients, whose condition was hastily diagnosed in the rush of a dispensary, were dismissed when they came to conference for collapse. The groups "treated less than three months" and "pneumothorax attempted," nine and thirteen patients respectively, are too small to receive undue attention. The real meaning of the table is seen in the groups with moderately and far advanced tuberculosis, with 83.3 as against 57.7 per cent living in the former and 70.5 as against 21.5 per cent living in the latter.

The tables adapting the national classification to the stage of the disease are too lengthy to be included in a paper of this scope. Roughly, the results parallel the mortality as indicated in table 4. In the group with far advanced tuberculosis, for instance, 60.4 per cent of the treated patients fell in the better classifications (apparently cured, arrested, apparently arrested, quiescent, improved), as against 14 per cent for the controls.

Regarding conversions among the living patients, 84.8 per cent of those with minimal, 80.4 per cent of those with moderately advanced and 72.4 per cent of those with far advanced tuberculosis lost their bacilli permanently.

TABLE 2.—*Results at Final Examination According to the National Classification (6,403 Patients)*

	Total	Apparently Cured		Arrested		Apparently Arrested		Quiescent		Improved		Unimproved		Dead	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Treated more than 3 months	2,824	44	1.6	429	15.2	420	14.9	392	13.9	586	20.7	271	9.6	682	24.1
Treated less than 3 months	288	4	1.4	10	3.5	17	5.9	28	9.7	34	11.8	20	6.9	175	60.8
Pneumothorax attempted	276	0	...	9	3.2	24	8.7	24	8.7	39	14.1	34	12.4	146	52.9
No collapse	3,015	28	0.9	231	7.7	255	8.5	218	7.2	216	7.2	236	7.8	1,831	60.7
Total	6,403	76	1.2	679	10.6	716	11.2	662	10.3	875	13.7	561	8.8	2,834	44.2

TABLE 3.—*Conversions, 3,569 Living Patients (2,488 with Positive Sputum)*

	Total	Negative		Positive		Conversion		Incomplete Conversion		Remained Positive	
		No.	%	No.	%	No.	%	No.	%	No.	%
Treated more than 3 months	2,142	440	20.5	1,702	79.5	1,215	71.4	70	4.1	417	24.5
Treated less than 3 months	113	35	31.8	78	68.1	38	48.7	0	...	40	51.3
Pneumothorax attempted	130	32	24.6	98	75.4	51	52.0	8	8.2	39	39.8
No collapse	1,184	574	48.4	610	51.6	337	55.2	37	6.1	236	38.7
Totals	3,569	1,081	30.3	2,488	69.7	1,641	66.0	115	4.6	732	29.4

So far the figures lack something, something of first importance, the element of time as crossed against results. What is the answer to the crucial inquiry "How long?" How many of our 2,824 traced patients were alive after one, two, three, four, five or six years? Table 5 furnishes the details on this.

TABLE 4.—*Initial Diagnosis Against End Results (6,403 Patients)*

		Living		Dead	
580 with Minimal Tuberculosis 9.1% of Total					
		No.	%	No.	%
Treated more than 3 months	163*	147	90.2	16	9.8
Treated less than 3 months	9	9	100.0	0	0
No collapse					
Pneumothorax attempted	13	12	92.3	1	7.7
No collapse	395	342	86.6	53	13.4
All patients	580	510	87.9	70	12.1
1,889 with Moderately Advanced Tuberculosis 29.5% of Total					
		No.	%	No.	%
Treated more than 3 months	927*	772	83.3	155	16.7
Treated less than 3 months	103	51	49.5	52	50.5
No collapse					
Pneumothorax attempted	91	53	58.2	38	41.8
No collapse	768	443	57.7	325	42.3
All patients	1,889	1,319	69.8	570	30.2
3,934 with Far Advanced Tuberculosis 61.4% of Total					
		No.	%	No.	%
Treated more than 3 months	1,734	1,223	70.5	511	29.5
Treated less than 3 months	176	53	30.1	123	69.9
No collapse					
Pneumothorax attempted	172	65	37.8	107	62.2
No collapse	1,852	399	21.5	1,453	78.5
All patients	3,934	1,740	44.2	2,194	55.8

* Including permanent collapse procedures as well as pneumothorax.

Summarizing the highlights of the histories of the 171 patients subjected to collapse prior to 1931 and treated more than three months, 110, or 64.3 per cent, are living. Of the 421 "no collapse" patients, 132, or 31.3 per cent, are living. In other words, the patients treated with collapse did twice as well as the untreated patients. This ratio in favor of treated against untreated patients is steadily maintained for the succeeding years, from 1931 to 1936. Comparing the controls and looking at the tabulation all the way through, one sees that approximately twice as many treated patients as controls are living.

It may be alleged, and with some justice in view of ideas already enunciated, that the controls are not valent, that the groups are not similar and that the study failed, as all large studies on collapse must, in establishing anything approaching identity of symptoms, comparability of the pathologic process and prognosis. All right! Let us try another tack! Let us forget the controls established in the investigation and check the results against the published and repeatedly authenticated figures on the prognosis of open tuberculosis, the type of tuberculosis dealt with in this report, 94.2 per cent advanced and 84.4 per cent with positive sputum. How does tuberculosis of this kind turn out? Against the unfavorable hygienic and economic backgrounds, what is the outlook for the bacillifer? What is his life expectancy? Bad! If the consensus among dispensary and institutional officers is worth anything, very bad!

With from 75 to 90 per cent of patients of the type seen at municipal institutions in metropolitan centers, positive sputum is a death warrant within five years. No mere impression this! A special study, made as of Dec. 31, 1931, of all patients with open tuberculosis registered with the City of Chicago Municipal Tuberculosis Sanitarium previous to the year 1927 emphasized the fiber and the irrevocability of the death warrant. Of the 8,779 patients studied, 82.96 per cent were dead at the end of five years and 91.16 per cent at the end of ten years. There is nothing new in this.

One does not have to plunge very deep in the literature to find ample confirmation for the figures of the Sanitarium. William Farr, working with Louis and Bayle's records, found the law of mortality for phthisis (hospital patients) as follows: 62 per cent were dead the first, 85 per cent the second and 95 per cent the fifth year after the manifestation of symptoms. In 1909, of 108 patients with pulmonary tuberculosis, Prindle found 50 per cent dead the first year and 80 per cent dead within three years. In Jena, for patients who came under observation in 1920 and 1921, Kayser-Petersen found a mortality of 68.2 per cent after five years; in Stetten in a similar study, Braeuning found a mortality of 79 per cent. Lissant Cox found that of 736 patients with open tuberculosis studied after 1920, 90.2 per cent were dead after thirteen and one-half years and of 802 studied after 1925, 88.5 per cent were dead after eight and one-half years. The English County Council reports tell a similar story, 64 per cent dead after four years, 68 per cent dead after five years and 72 per cent dead after seven years.

TABLE 5.—*Year of Initiation or Date of Registration or Admission Against End Results (6,403 Patients)*

			Living		Dead	
		Total	No.	%	No.	%
Previous to 1931	Treated more than 3 months	171	110	64.3	61	35.7
	Treated less than 3 months	5	0	....	5	100.0
	Pneumothorax attempted	2	2	100.0	0	....
	No collapse	421	132	31.3	289	68.7
	Totals	599	244	40.7	355	59.3
1931	Treated more than 3 months	154	103	66.9	51	33.1
	Treated less than 3 months	17	2	11.7	15	88.3
	Pneumothorax attempted	16	6	37.1	10	62.9
	No collapse	329	121	36.7	208	63.3
	Totals	516	232	44.9	284	55.1
1932	Treated more than 3 months	427	284	66.5	143	33.5
	Treated less than 3 months	36	10	27.8	26	72.2
	Pneumothorax attempted	44	15	34.1	29	65.9
	No collapse	387	162	41.8	225	58.2
	Totals	894	471	52.6	423	47.4
1933	Treated more than 3 months	511	359	70.2	152	29.8
	Treated less than 3 months	30	14	46.7	16	53.3
	Pneumothorax attempted	50	20	40.0	30	60.0
	No collapse	487	185	37.9	302	62.1
	Totals	1,078	578	53.6	500	46.4
1934	Treated more than 3 months	521	398	76.4	123	23.6
	Treated less than 3 months	56	20	35.7	36	64.3
	Pneumothorax attempted	51	19	37.4	32	62.6
	No collapse	477	162	33.9	315	66.1
	Totals	1,105	599	54.1	506	45.9
1935	Treated more than 3 months	630	523	83.0	107	17.0
	Treated less than 3 months	83	34	40.9	49	59.1
	Pneumothorax attempted	76	46	60.5	30	39.5
	No collapse	610	269	44.1	341	55.9
	Totals	1,399	872	62.3	527	37.7
1936	Treated more than 3 months	410	365	89.0	45	11.0
	Treated less than 3 months	61	33	54.1	28	45.9
	Pneumothorax attempted	37	22	59.4	15	40.6
	No collapse	304	153	49.6	151	50.4
	Totals	812	573	75.6	239	24.4

The London County Council reports, involving the turnover of approximately 4,000 patients a year for the years 1921 to 1929 inclusive, carry the same theme,

an average survival rate after five years of 32 per cent for the patients with moderately advanced tuberculosis and positive sputum and 5 per cent for the patients with far advanced tuberculosis. Such is the prognosis of open tuberculosis, a prognosis that the joint collapse program sought to modify in a favorable direction. The effort met with an appreciable measure of success.

TABLE 6.—*Unilateral Versus Bilateral Treatment Crossed Against End Results (2,824 Patients)*

	Unilaterally Treated		Bilaterally Treated		Total	
	No.	%	No.	%	No.	%
Apparently cured	36	1.6	8	1.4	44	1.6
Arrested	385	17.0	44	7.7	429	15.2
Apparently arrested	333	14.7	87	15.4	420	14.9
Quiescent	330	14.6	62	11.0	392	13.9
Improved	400	17.7	186	33.1	586	20.7
Not improved	196	8.7	75	13.2	271	9.6
Dead	579	25.7	103	18.2	682	24.1
Total	2,259	100.0	565	100.0	2,824	100.0

Throwing out all our controls and taking the authenticated figures just cited as a measuring rod we have, in the group studied before 1931, 64.3 per cent living as against less than 30 per cent living in the reported series and proportionate improvement in the later groups: 66.9 per cent alive for those starting treatment in 1931, 66.5 for 1932, 70.2 for 1933, 76.4 for 1934 and 83 for 1935. Irrespective of the status of our "no collapse" patients, these figures stand out and are buttressed by the grand control, the uniform observation and results of all who have had experience with open tuberculosis.

What influence if any could be attributed to the extent of intervention as represented by unilateral and bilateral treatment? Of the 2,824 patients subjected to collapse, 2,259, or 80 per cent, were treated unilaterally and 565, or 20 per cent, bilaterally. The study, while perhaps of academic interest only, nevertheless is included (table 6). From the table it will be seen that 579, or 25.7 per cent, of the 2,259 patients treated unilaterally were dead at the time of the report, as against 103, or 18.2 per cent, of the 565 patients bilaterally treated. The composition of the groups with apparently cured, arrested and apparently arrested tuberculosis, however, is in favor of the patients subjected to unilateral treatment. In other words, there seems to be a conflicting theme in this compilation, a relatively larger number of survivors in the bilaterally treated group, with a diminished ratio of improvement for the group in general. While conflicting on the surface, this inversion of the ratios fits in well with the pathology of bilateral tuberculosis and the indications as materialized in bilateral treatment.

The table on conversion for this study, which it was not thought necessary to include, follows the pattern, 77.7 per cent of conversion for unilateral treatment as against 68.5 per cent for bilateral treatment.

FIELD COLLAPSE VERSUS SANITARIUM COLLAPSE

Is large scale field collapse successful? From the point of view of end results and conversion, how does it compare with collapse established and maintained in the Sanitarium? The answer to this question constituted one of the main objectives of the investigation. After a six and one-half year trial we were anxious to determine how the patient subjected to extramural collapse fared and how the field stood up in relation to the ideal locale for collapse, the sanatorium. Table 7 gives the breakdown.

First, loosely summarizing, the table shows 30 per cent of the clinic patients with tuberculosis apparently cured, arrested and apparently arrested, 27.2 per cent with the disease quiescent and improved, 9.3 per cent with it unimproved and 33.5 per cent dead, as against 26.2 per cent in the best categories for the Sanitarium, 40 per cent with the disease quiescent and improved, 9.7 per cent with it unimproved and 24.1 per cent dead. The discrepancy in the percentages of patients with apparently cured, arrested and apparently arrested tuberculosis (30 per cent against 26.2 per cent) in favor of the clinic is in all probability a superficiality. On the whole the extramural clinic did not do quite as well. When all the better classifications are combined, the clinic shows 57.2 per cent of the patients with the disease apparently cured, arrested, apparently arrested, quiescent and improved, as against 66.2 per cent for the Sanitarium and 75.1 per cent for clinic and Sanitarium combined. The mortality ratio emphasizes this trend still more: 33.5 per cent dead for the clinic, 24.1 per cent dead for the Sanitarium and 15.1 per cent dead for the group receiving both clinic and Sanitarium treatment.

TABLE 7.—*Sanitarium Versus Field Collapse—End Results (2,824 Treated Patients)*

		Apparently Cured		Arrested		Apparently Arrested		Quiescent		Improved		Unimproved		Dead	
Treated More Than 3 Months	Total	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Clinic	777	13	1.7	131	16.8	89	11.5	117	15.0	95	12.2	72	9.3	260	33.5
Sanitarium	1,248	17	1.4	122	9.8	188	15.0	162	13.0	337	27.0	121	9.7	301	24.1
Combined	799	14	1.8	176	22.0	143	17.9	113	14.1	154	19.3	78	9.8	121	15.1
Total	2,824	44	1.5	429	15.2	420	14.9	392	13.9	586	20.8	271	9.6	682	24.1

The figures seem logical. Sanitarium results normally should be superior to the results of field collapse, and the combination of Sanitarium and clinic treatment, with the implied follow-up in the home, should show up best.

When the extramural program was being considered, it was well realized that ideally pneumothorax should be induced at the Sanitarium. This ideal, however, was impossible of attainment. In view of the accommodation shortage, even a relatively brief period of preliminary stay was out of the question. With some misgivings and for lack of other solution, the directors

TABLE 8.—*Initial Treatment Against Place of Application (3,090 Patients)*

Initial Treatment	Total		Living		Dead		Untraced		Patients Known to be Living,
	No.	%	No.	%	No.	%	No.	%	%
At clinic	1,192	100	786	65.9	326	28.1	80	6.0	70.6
At Sanitarium	1,500	100	1,071	71.4	287	19.1	142	9.5	78.1
Elsewhere	398	100	285	71.7	69	17.3	44	11.1	80.2
Grand total	3,090	100	2,142	69.2	682	22.1	266	8.7	75.3

had to envisage the initial injection in wide application outside the Sanitarium. The scale turned in favor of widespread extramural collapse from the initial injection onward, and in the six and one-half year period there has been no cause to regret the decision. Table 8 gives the results from the standpoint of the initial treatment. Viewing all cases from this standpoint irrespective of other considerations, it will be seen that 70.6 per cent of the patients who started treatment

TABLE 9.—*Type of Treatment Against Results (3,090 Patients Treated More than Three Months)*

	Total	Living		Dead		Untraced		Patients Known to be Living, %
		No.	%	No.	%	No.	%	
Pneumothorax only...	1,509	1,057	70.0	321	21.3	131	8.7	76.7
Phrenic operation only	475	295	62.1	152	32.0	28	5.9	65.9
Pneumothorax and phrenic operation....	470	328	70.0	92	19.4	50	10.6	78.0
Pneumothorax and pneumonolysis.....	45	33	73.4	12	26.6	0	....	73.4
Pneumothorax and oil	110	80	72.8	21	19.1	9	8.1	79.2
Thoracoplasty only...	70	47	67.2	15	21.4	8	11.4	75.8
Thoracoplasty and other collapse.....	254	183	72.1	39	15.3	32	12.6	82.4
All other treatments...	157	119	75.8	30	19.1	8	5.1	79.8
Total.....	3,090	2,142	69.3	682	22.1	266	8.6	75.8

at the clinic were living, as against 78.1 per cent of those who started at the Sanitarium. The figures are sufficiently large and sufficiently close to establish a just comparison. The difference of 7.5 per cent in the results speaks well for the thesis that pneumothorax can be safely and competently induced in the field.

With reference to the 398 patients who started treatment elsewhere, these were ambulant patients from other institutions with a pneumothorax already well established when first seen.

From the first the conjoined clinic and Sanitarium plan has stressed collapse as a sequential treatment regulated to the individual patient for the individual indication. The institution is prepared to give every patient, inside the Sanitarium or outside, the benefit of all the ancillary measures as well as of pneumothorax. With the exception of thoracoplasty and one or two other measures, the clinic is equipped to give all collapse procedures. Patients needing thoracoplasty or the other special measures are referred to the Sanitarium. In the course of the investigation a study was undertaken to define the results of the various operations and combinations. Table 9 represents this study. It will be seen that "phrenic operation only" showed the poorest results, 65.9 per cent, as against 75.8 for "thoracoplasty only," 76.7 for "pneumothorax only," 73.4 for "pneumothorax and pneumonolysis," 78 for "pneumothorax and phrenic operation," 79.2 for "pneumothorax and oil" and 82.4 for "thoracoplasty and other collapse."

In addition to the results of thoracoplasty quoted here, Davison, our consultant in thoracic surgery, made a special study of 393 patients operated on at the Sanitarium and observed in the period from 1927 to 1938. Sixty-nine per cent were living from seven to eleven years after operation, 79 per cent from five to seven years after operation, 83 per cent five years after operation, 79 per cent four years after operation and 90 per cent three years after operation.

How were the results of pneumothorax proper influenced by the percentage of collapse? Balancing the total end figures against the degree of collapse, the tables (not sufficiently important to be introduced in a paper of this length) followed the accepted formula that, other things being equal, the greater the degree of collapse the better the results; 39.2 per cent of the patients with an average collapse of 30.0 per cent were dead at the time of the report, 32.9 per cent of those with a 30.0 to 60.0 per cent collapse were dead and 21.9 per cent of those with a collapse of 60.0 per cent and over were dead.

In the Chicago collapse plan, from the first, special attention has been devoted necessarily to the Negro. Tuberculosis in this race constitutes a large part of the local problem. In 1937 an estimated Negro population of 250,000, 7 per cent of the total population, accounted for 35 per cent of the deaths from tuberculosis. In view of these figures and of the socio-economic and health factors, every effort was made to get members of the race under treatment. In all, during the six and one-half year period, 1,071 Negroes were observed, of whom 439 were actually submitted to some form of collapse. The results, balanced against those for the white race, are shown in table 10.

At first the results of collapse in the Negro may seem unfavorable; 57.4 per cent of the Negroes were living as against 78.9 per cent of the white patients, a gap of 21.5 per cent. In judging the issue, however, one must bear in mind that in Chicago the recorded mortality ratio as between Negroes and white persons is 6 to 1. The figure in our study, 57.4 against 78.9, representing a Negro to white person ratio of 1 to 1½, is considerably better. This difference, even if further studies prove it constant, is well worth working for. It is quite possible too that another series of patients might show better response. The possibility is suggested by the fact that response in Negro women was much better than in Negro men, 65.8 per cent living as against 49.6 per cent. Much more research is necessary on this point. Notwithstanding the fact that from every angle collapse in the Negro is of first importance, it has had to date amazingly little attention.

Chadwick, Markoe and Thomas [3] reported the cases of 464 Negroes treated in Detroit sanatoriums, 67.0 per cent with far advanced and 23.0 per cent with moderately advanced tuberculosis, of whom 70.0 per cent

TABLE 10.—*End Results Against Race and Sex (6,271 White Persons and 1,071 Negroes, a Total of 7,341)*

	Totals			Percentage Known to Be Living		
	White	Negro	Total	White	Negro	Total
Treated more than 3 mo....	2,651	439	3,090	78.9	57.4	75.8
Treated less than 3 mo.....	260	77	337	44.6	21.2	39.2
Pneumothorax attempted..	233	97	330	55.2	29.1	47.1
No collapse.....	3,126	458	3,584	39.0	38.8	39.2
Totals.....	6,270	1,071	7,341	57.7	44.4	55.7

received collapse therapy. Of the discharged patients, 28.0 per cent had the disease arrested, and of the patients still under treatment at the time 53.0 per cent were showing a favorable response. Unfortunately the figures are not complete; the conversions are not given, the length of treatment was not studied and data are not available as to condition after discharge.

These authors also studied the relative response in Negroes of pure and of mixed blood. This too is a subject that needs further research. It is no mere academic question. Granted race as an element in susceptibility, it is only natural to suppose that the

3. Chadwick, H. D.; Markoe, R. C. L., and Thomas, J. T.: Collapse Therapy of Pulmonary Tuberculosis in Negroes, Am. Rev. Tuberc. **28**: 759 (Dec.) 1933.

factor would operate more obviously in full-blooded Negroes than in mulattoes. In Chadwick, Markoe and Thomas's study the tenet was borne out as it applied to the light Negro. "The very dark Negro, on the other hand, had a higher percentage in the favorable group than did the medium colored patients." They conclude that "the degree of color, other than the very light, is not an index of response to tuberculosis."

Nash,[4] from the clinic of the Atlanta Tuberculosis Association, reported on forty-eight patients treated from June 1933 to June 1936. The average length of treatment was nine months. Thirty-five per cent had a successful collapse and 54.0 per cent an unsuccessful one. Fifteen, or 88.0 per cent, of those with successful collapse were classed as having the tuberculosis improved, apparently arrested or arrested.

It is surprising that the inherent possibilities of collapse for the Negro have been so little studied. Since in the United States, of a population of 12 million Negroes about 250,000 need hospitalization for tuberculosis, with only about 7,500 beds, or about 3.0 per cent, to receive them, extramural collapse would seem to offer at least a large fraction of the solution. There are of course, difficulties that will not be cured by collapse, such as economic and hygienic factors, housing (several families to a flat, several adults and children to a room, exposure to active tuberculosis of both children and adults who have a negative reaction to tuberculin) lack of medical and nursing care among the Negroes and, last though not least, the much discussed and intricate issue of resistance. How much weight the last factor carries in the lessened response to collapse (if lessened response there is) cannot be said. Though environmental, adaptive and economic factors must be given some influence, there is undoubtedly something else, a racial element modifying resistance, an innate tendency to a more foudroyant type of disease in the Negro. To quote Long:[5] "The tuberculosis in the Negro, as compared with the average in the white, is generally more massive in character with more tendency to caseous pneumonia and to generalization by both blood and lymph streams, with resultant wider variations in anatomical type." Or Pinner and Kasper:[6] "We are impressed by the necessity of considering the likelihood of true genotypic differences between the two races in order to explain their different reactions to tuberculosis."

Irrespective of the underlying causes, the fact remains that the Negro carries a large proportion of the open tuberculosis in cities like Chicago. In a collapse program he should receive a share of attention, graduated generously in accordance with the urgency of his problem.

In a paper of this type it is impossible to cover in detail the story of the complications as revealed in the investigation. We restrict ourselves to one, air embolism. Table 11 shows the incidence of this complication from 1931 to 1937 inclusive.

In all there were 83,245 treatments, with one embolus to every 2,973 injections. The gradually decreasing rate of accident from 1931, when the work started, to the present is meaningful. The last embolus occurred on May 25, 1937. Since that date, through a total of 21,000 treatments, no accident of this kind has occurred.

The fact needs to be stressed that this is field collapse and advanced tuberculosis. Of the twenty-seven patients eight died, one twenty-five minutes, one four hours, one thirty-five hours, one thirty-six hours, one four days and three ten days or more after the injection.

The figures, twenty-eight to 83,245 treatments, compare favorably with reports in the literature for institutionalized collapse and dispose of the contention that extramural collapse, from the initial injection onward, is necessarily a hazardous undertaking.

SUMMARY AND CONCLUSIONS

Of 7,341 patients observed over a six and one-half year period, 3,090 were subjected to collapse for more than three months and 337 for less than three months, 330 had pneumothorax attempted and 3,584 were controls. Broadly, the results were twice as good with the treated patients as with the controls and better still as against the life expectancy of patients with open tuberculosis as revealed in the literature.

The matter of the controls is difficult, and results based on theoretical premises may be misleading. Because too many intangibles, imponderables and variables are involved, we especially deprecate the measuring rod, based on morbidity and sanatorium mortality ratios. Collapse in widespread application is too new to affect the mortality tables conspicuously, to dominate morbidity and to influence the flux of summative and conflicting influences that swirl and eddy to actualize themselves in the composition of the death rates.

TABLE 11.—*Air Embolism Versus Pneumothorax Treatments, Field Clinic Only*

	Pneumothorax Treatments			Air Embolism	
Year	New Cases	Refills	Total Treatments	Number	Ratio of Treatments to Air Embolism
1931	126	1,250	1,376	3	459:1
1932	278	4,388	4,666	6	778:1
1933	263	7,194	7,457	7	1,065:1
1934	248	10,548	10,796	2	5,398:1
1935	416	16,211	16,627	4	4,157:1
1936	566	18,437	19,003	5	3,800:1
1937	469	22,851	23,320	1	23,320:1

Collapse should have widespread application. Wherever possible, the unified plan is recommended: intramural collapse and extramural collapse, with reciprocity of function and interchange of patients, as indicated, between the two. Where the sanatorium ends the field clinic, expansile, inexpensive and elastic in its applicability to the need, begins. In small communities where a sanatorium is not practical, the addition of a few beds to the clinic will serve the purpose.

The relative values of the integers in the unified plan are seen in the results, a survival rate of 66.5 per cent for patients treated exclusively in the clinic, 75.9 per cent for patients treated exclusively in the Sanitarium and 84.9 per cent for those who had the advantages of combined clinic and Sanitarium treatment. The figures for the Sanitarium and clinic combined are the best, indicating a coordination of the field and institutional functions as the ideal basis for a plan of collapse.

The much mooted question of the initial treatment outside the institution did not seem to make a great difference; 70.6 per cent of the patients who received the initial treatment in the clinic were living, as against 78.1 per cent of the patients who received their first

4. Nash, H. E.: A Study of Forty-Eight Pneumothorax Cases in the Negro Clinic of the Atlanta Tuberculosis Association, Dis. of Chest **2**: 24 (Dec.) 1936.

5. Long, Esmond R.: A Brief Comparison of Tuberculosis in the White, Indian and Negro Races, Am. Rev. Tuberc. **35**: 1 (Jan.) 1937.

6. Pinner, Max, and Kasper, Joseph A.: Pathological Peculiarities of Tuberculosis in the American Negro, Am. Rev. Tuberc. **26**: 463 (Nov.) 1932.

injection in the Sanitarium. This observation, embracing a large number of cases, dissipates the myth that the initial treatment is purely an institutional prerogative.

Classified according to the types of treatment, the results of the investigation on the whole were better for combined collapse (two or more procedures) than for any individual measure. Collapse is viewed as a treatment sequence with an ideal indication and an optimum moment for each operation.

The results for the Negro, while not up to those for the members of the white race, are considered satisfactory. A gap in the mortality of 6 to 1 is reduced to a gap of 3 to 2, a development that suggests at least a partial solution for the lack of beds for Negroes throughout the country and invites speculation as to the possibilities of extramural collapse for Negroes.

The incidence of air embolism, twenty-eight accidents in 83,245 injections, compares favorably with the reports in the literature.

As a result of the investigation and of actual experience in the clinic and at the bedside, the officers and medical personnel of the City of Chicago Municipal Tuberculosis Sanitarium are convinced that collapse symbolizes a union of ends and aims, a double objective from a double function and a fine public health instrument as well as a medium of cure and rehabilitation, beneficial to any tuberculous patient with the indications but especially beneficial and even essential to the patient who, for lack of beds, cannot be given institutional care.

CARCINOMA OF THE LUNG SIMULATING INFLAMMATORY DISEASE

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The mimicry of carcinoma by inflammation is a well recognized occurrence in intra-abdominal infections involving the stomach, colon or pelvic organs and occasionally the breast. Extensive inflammatory disease of the pelvis originating in a diverticulitis of the colon or in a salpingitis has simulated carcinoma so closely that a colostomy has been performed on the basis of a diagnosis of carcinoma followed by a surprising disappearance of the lesion. An extensive inflammatory process involving the cecum was mistakenly attributed to an inoperable carcinoma and to the prediction that the patient had but little time to live. Seven years later the patient returned for correction of a right inguinal hernia with no vestige left of the original palpable mass. Cancer may also mimic inflammation. Carcinoma of the liver not infrequently produces a high swinging fever indistinguishable from that due to an abscess and not correctly diagnosed except at laparotomy.

So many examples of this sort can be cited of the one lesion closely simulating the other that surgeons have found it wise and expedient never to make a diagnosis of carcinoma on appearance and feel alone but only on the basis of microscopic sections.

Exactly similar difficulties of diagnosis are presented by carcinoma of the lung, which not infrequently presents a clinical picture resembling pulmonary suppuration so closely that an exact diagnosis is possible only by bronchoscopy, exploration or autopsy. Even at autopsy, as Graham suggests, a carcinoma of the lung may be overlooked entirely because of the overshadowing features of pulmonary suppuration.

This difficulty may account in part for the supposed recent increase in pulmonary neoplasms. It is highly probable that, in the past, patients ill from carcinoma

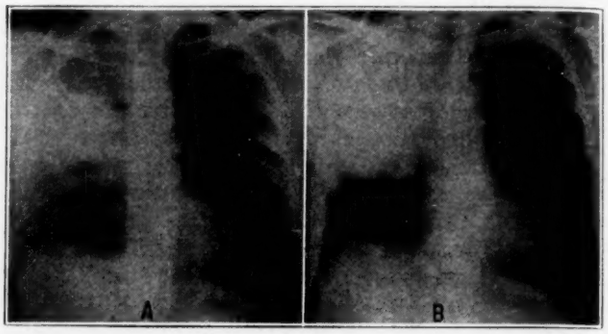

Fig. 1 (case 1).—Appearance (*A*) Sept. 12, 1931, and (*B*) Oct. 23, 1931, following resection of rib for exploration of a possible abscess. Tissue removed established the diagnosis of carcinoma, as did also the progression of the disease.

were mistakenly treated for tuberculosis, pulmonary abscess or pneumonia and the deaths were so recorded in the vital statistics. Until the last decade or two primary carcinoma of the lung was rarely encountered or, if encountered, was wrongly diagnosed. In 1912 Adler [1] collected 374 cases of carcinoma of the lungs and bronchi from all the literature and concluded that "primary malignant neoplasms of the lungs are among the rarest forms of disease." According to a recent statement by Graham,[2] textbooks a decade ago considered carcinoma of the lung as constituting less than 1 per cent of all carcinomas, while at the present time they represent more nearly 10 per cent of all carcinomas, an incidence comparable to carcinoma of the large intestine. Distressingly enough, several cases of carcinoma of the lung in small children have been reported recently, one in a boy aged 10 years,[3] another in a child aged 7 years [4] and a third in an infant aged 16 months.[5] Whatever the explanation, it is certain that the diagnosis of carcinoma of the lung is being made more frequently, more accurately and, withal, more hopefully since lobectomy and pneumonectomy have withdrawn this disease from the limbo of hopelessness into the realm of cure.

Difficulties of diagnosis still exist, however, and the following cases are presented to illustrate that carcinoma may simulate suppuration so exactly that neither the clinician nor the radiologist can determine the exact nature of the disease. Bronchoscopy is indicated but does not always provide the solution. Certainly, any long unresolved pneumonia or persistent suppuration that does not yield to the usual therapeutic measures should be considered a case of probable neoplasm until proved otherwise.

CASE 1.—I. N., a Japanese farmer aged 44, entered the hospital Sept. 12, 1931, with a diagnosis of interlobar empyema following an illness the preceding May which had been diagnosed as lobar pneumonia. In May a rib had been resected for

From the Stanford University School of Medicine.

1. Adler, Isaac: Primary Malignant Growths of the Lungs and Bronchi, New York, Longmans, Green & Co., 1912, p. 17.
2. Graham, E. A.: Diagnosis and Treatment of Primary Carcinoma of Bronchus or Lung, Am. J. Roentgenol. **31**: 145-152 (Feb.) 1934.
3. Gould, L. K.: Primary Cancer, with Report of Case in Boy Aged 10, J. Indiana M. A. **27**: 332-334 (Aug.) 1934.
4. Sommer, A. W.: Carcinoma (Primary?) in Child of 7, Minnesota Med. **17**: 415-417 (July) 1934.
5. Beardsley, J. M.: Primary Carcinoma of Lung in Child, Canad. M. A. J. **29**: 257-259 (Sept.) 1933.

an empyema, but the wound closed spontaneously in six weeks. Following this closure he began spitting up pus, accompanied by cough and fever. Examination showed dulness and diminished harsh breath sounds without rales at the right apex, suggesting atelectasis. The temperature was 101 F., pulse rate 104 and respiratory rate 20. The white blood cells numbered 23,750 and the red blood cells 3,570,000, and the hemoglobin content was 49 per cent. The Wassermann reaction was negative. There was a small daily output of purulent sputum containing many cocci in chains, identified as Streptococcus viridans. Bronchoscopy revealed a little pus coming from the right upper lobe but no granulation tissue or obstruction of the bronchus. A roentgenogram (fig. 1) showed a heavy, roundish area of density with a fuzzy border in the midportion of the right upper lobe which was thought to contain an abscess. A rib was resected for a probable pulmonary abscess. Broken down pulmonary tissue was encountered which was later identified as of neoplastic origin. The patient died several months later of carcinoma of the lung.

CASE 2.—A. D. F., a housewife, first seen in January 1932, stated that five months previously she had had chills, fever, sore throat and "pneumonia" with as much as one cupful of "bad tasting" sputum daily. This gradually disappeared in three months, at which time another "cold" developed with return of sputum, which on one occasion contained 4 cc. of blood. The sputum contained no tubercle bacilli. A clear effusion was withdrawn on two occasions, followed by a dry tap. Examination showed hyperresonance over the left upper lobe with diminished to absent breath sounds over the lower two thirds of the left lung. Bronchoscopy for a probable intrapulmonary suppuration revealed carcinomatous tissue in the bronchus to the left lower lobe. She died a short time later.

CASE 3.—M. Z., a hotel clerk aged 55, entered the hospital complaining of recent diminution in vision and of asthma of fifteen years' duration, accompanied by a recent increase in cough and the appearance of grayish green sputum daily. He had had no hemoptysis or blood-tinged sputum. Pulmonary changes were minor in character except for those found in asthma and emphysema; namely, coarse rhonchi throughout, musical rales and squeaks and harsh, prolonged expiration. Roentgenograms showed a great deal of density in the region of the right lower lobe with many small cavities, which were interpreted as due to bronchiectasis (fig. 2). The clinical diagnosis included asthma, glaucoma, hypotension, ventral hernia and bronchiectasis. The eye was trephined for glaucoma, but the progression of the pulmonary symptoms led to bronchoscopy and studies with iodized oil. On admission to the hospital his temperature was 39.5 C. (103.1 F.), pulse rate 100 and respiratory rate 34; the white blood cells numbered 9,400, the red blood cells 4,740,000, and the hemoglobin content was 76 per cent. Bronchoscopy revealed a primary tumor of the right main bronchus, obstructing the bronchus to the lower lobe. There was a rapid extension of the process radiographically and clinically. At autopsy a primary tumor at the bifurcation of the right bronchus was found, partially occluding the bronchi to the upper and lower lobes and completely closing the bronchus to the middle lobe. The carcinoma extended into the pulmonary tissue, and metastatic deposits were found in the peribronchial and mediastinal lymph nodes. Small, healed tuberculous cavities were found at the apex of the right lung.

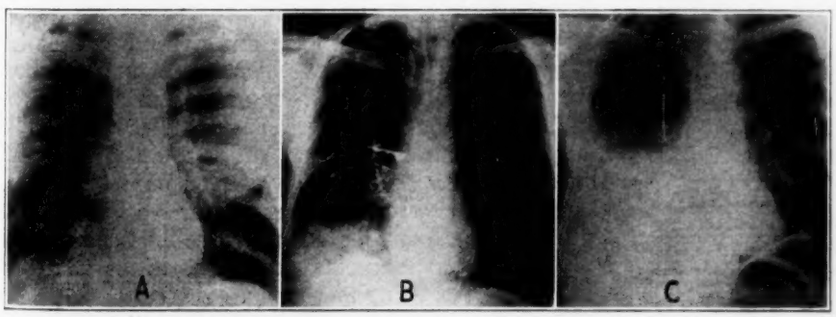

Fig. 2 (case 3).—Appearance showing (*A*) Nov. 19, 1930, probable bronchiectasis, (*B*) Dec. 17, 1930, an extension of the process with obstruction of the bronchus to the lower lobe due to tumor, revealed by bronchoscopy, and (*C*) Jan. 12, 1931, rapid spread of the disease accompanied by pleural effusion.

CASE 4.—J. M., a tile setter aged 56, on admission to the hospital complained of pain in the right shoulder for four months accompanied by cough and some blood-tinged sputum in the past three weeks. There had been no loss of weight. The pulmonary signs included immobility of the right side of the chest, dulness and loud, sonorous respirations at the right apex and clubbed fingers. The roentgenogram revealed a heavy density at the right apex which was interpreted as of tuberculous origin. Examination of the urine was negative; the Wassermann reaction was ++. The red blood cells numbered 4,440,000, the white blood cells 14,400, with hemoglobin content of 70 per cent. Marked and rapid progression of all symptoms and signs led within three weeks to another roentgenogram (fig.3), which revealed a destructive process involving the third rib. This was attributed to a neoplasm. He failed rapidly and died. At autopsy a carcinoma of the lung was found arising from an old tuberculous cavity with extension to the ribs and spine. Healed apical lesions due to tuberculosis were present on both sides.

Fig. 3 (case 4).—Appearance of an infiltrative lesion of the apex, first interpreted as tuberculosis but subsequently attributed to carcinoma when destruction of a rib was demonstrated. Patient died of pulmonary carcinoma.

CASE 5.—G. A. H., a man aged 77, a German, admitted to the hospital March 3, 1931, complained of pain in the right lower part of the chest and a productive cough of three weeks' duration. The patient was well nourished with some minor pulmonary changes in the right lower part of the chest, consisting of impaired resonance and many coarse rales which were interpreted as being due to a nontuberculous basilar infection. A roentgenogram (fig. 4), however, revealed a sharply rounded mass which was at first interpreted as being a tumor or possibly an echinococcus cyst. The temperature was 39 C. (102.2 F.), the pulse rate 130 and the respiratory rate 32; white blood cells numbered 15,040, red blood cells 3,750,000 with hemoglobin 75 per cent. The sputum revealed many gram-positive cocci. On the basis of a probable diagnosis of neoplasm, radiation therapy was begun but was promptly followed by a high fever, frequent coughing and considerable sputum. The diagnosis of tumor was now questioned and, accordingly, at the request of the medical division a rib was resected for a probable abscess or infected cyst. Instead a large broken-down neoplastic mass was found. The patient died after forty-eight hours. The autopsy revealed a large carcinoma with septic necrosis.

CASE 6.—W. T., a man aged 41, a molder, entered the hospital Feb. 13, 1930, because he had been spitting up blood for about four weeks. The patient had had a chronic productive cough of seventeen years' duration. After exposure to rain and chilling eight weeks previously, the cough and sputum had greatly increased, accompanied by the new symptoms of pain in the left side of the chest, chills and and fever, night sweats, dyspnea, edema of the ankles and, subsequent to this, a bloody sputum. Weakness and loss of weight were also a part of the

recent picture. Physical examination revealed dulness and diminished breath sounds over the left lower part of the chest with many fine and coarse rales at both bases. A marked clubbing of the fingers was found. The temperature was 39 C. (102.2 F.) the pulse rate 120, the respiratory rate from 30 to 36, and a white blood cell count of 19,000. The urine showed a small amount of sugar, and the fasting blood sugar was 110 mg. per hundred cubic centimeters. The Wassermann reaction was negative. Many sputum examinations showed numerous long chained streptococci and staphylococci but no tubercle bacilli. Bronchoscopy revealed that the bronchus to the left lower lobe was the source of the bleeding, but no tumor was seen. The first roentgenogram (fig. 5) was interpreted as follows: "The increased density in the left lower lobe is either a basilar tuberculosis or, more likely, a bronchiectasis." Injection of iodized oil, however, revealed an intrapulmonary excavation, irregularly triangular, more than 3 cm. in diameter. This was interpreted by the roentgenologist as an abscess. During the next few days a bloody pleural effusion developed on the left side, the fever remained elevated and he lost ground rapidly; he died March 8, 1930. At autopsy a primary carcinoma of the bronchus to the left lower lobe was found with metastases to the opposite lung, pleura, peribronchial lymph nodes, heart, liver, left kidney, right adrenal body and pancreas. There was evidence of a healed tuberculosis at both apexes.

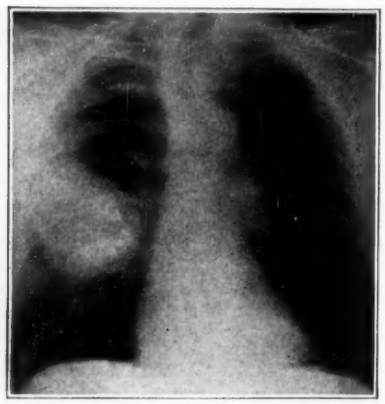

Fig. 4 (case 5).—Appearance of a man aged 77 in whom a tumor, or possibly an echinococcus cyst, was diagnosed. Operation and later autopsy revealed a large broken down neoplastic mass.

The foregoing cases illustrate the ease with which a carcinoma of the lung may masquerade as an inflammatory process. Occasionally the mistake is reversed, and the pulmonary changes observed in a roentgenogram are interpreted as being due to tumor when in reality the process is due to calcified abscess or to silicosis. The following case illustrates this possibility:

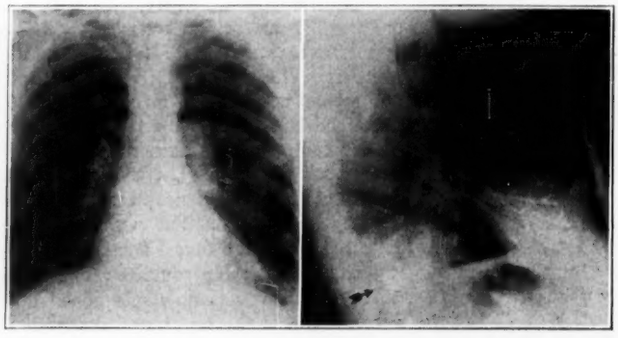

Fig. 5 (case 6).—The increased density at the left base was first interpreted as being due to bronchiectasis, but after injection of iodized oil as due to an abscess. The arrow indicates the site of excavation of pulmonary tissue, which was found at autopsy to be due to carcinoma.

CASE 7.—J. G., a man aged 58, entered the hospital March 11, 1930, because of numbness and weakness of the legs of one year's duration. For twenty-eight years he had been a quartz miner. In the three months preceding admission, shortness of breath and night sweats had developed. The pulmonary changes consisted of impaired resonance, diminished breath sounds and coarse rales over the right base and axilla. On the basis of a blood examination, which revealed 2,860,000 red blood cells per cubic millimeter, 68 per cent hemoglobin, a color index of 1.1 and a complete gastric anacidity, a diagnosis of pernicious anemia with subacute combined sclerosis was made. The Wassermann reaction and analysis of the urine were negative. A roentgenogram (fig. 6) was interpreted as being due to tumor, with the qualified statement that the appearance could be caused by abscess of the lung with basilar infection and pneumoconiosis. A bronchoscopy revealed normal bronchi. Examination of the sputum was negative for tubercle bacilli. Under ventriculin and whole liver the blood improved to 4,640,000 red blood cells per cubic millimeter and a hemoglobin of 75 per cent. He was discharged to a home for the aged, where he died six months later. At autopsy there was marked pneumoconiosis, chronic pulmonary tuberculosis with acute exacerbation and tuberculosis of the spleen, liver, retroperitoneal lymph nodes and prostate. Sections of the lung showed the left lower base to be practically solid black fibrous tissue with a cavity 4 by 1 cm. in the center. There was no bronchial communication. In the right lower lobe was a cavity 7 cm. in diameter. No evidence of a malignant condition was found.

SUMMARY

The diagnosis of carcinoma of the lung has increased in the past twenty-five years from an incidence of 1 per cent to 10 per cent of all carcinomas encountered.

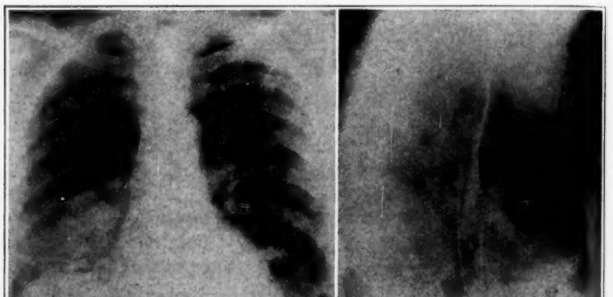

Fig. 6 (case 7).—Appearance in a quartz miner interpreted as presenting evidence of tumor at the right base but found at necropsy to be due to pneumoconiosis and chronic tuberculosis.

Its manifestations are protean and depend entirely on its location in the rather extensive pulmonary bed. When situated in the periphery of the pulmonary field, the first symptoms are referable to the thoracic wall; i. e., pain due to erosion of a rib or to an involvement of the intercostal nerve and vascular bundle, or to a pleurisy with subsequently a serous or bloody effusion. Such effusions should be aspirated, the fluid centrifuged and the cellular elements embedded in paraffin for microscopic sectioning and study.

Pain referred to the shoulder due to diaphragmatic involvement may occur, as may also paralysis of the diaphragm due to infiltration of the phrenic nerve. Horner's syndrome of narrowed pupil and ptosis may be due to infiltration of the cervical sympathetic nerve or upper thoracic ganglions by a pulmonary cancer. The most frequent symptom is cough, which follows the origin in or the invasion of the bronchial tree and is soon followed by blood-streaked sputum. Any persistent cough demands a roentgenographic examination, as does also the appearance of bloody sputum.

Not infrequently the presence of carcinoma is obscured by the overshadowing signs of infection. At certain stages in the development of pulmonary carcinoma it may present, owing to inflammation, all the

characteristics of an intrapulmonary abscess, of purulent bronchitis, of bronchiectasis or even of tuberculosis.

Atypical intrapulmonary lesions resembling infection but not entirely explained on the basis of inflammation are most frequently due to neoplasm.

Recent advances in surgical technic [6] have made lobectomy and hemipneumonectomy successful and therefore imperative, whenever possible, in the care of pulmonary neoplasm. Early and exact diagnosis by every available means, including bronchoscopy, repeated roentgenograms, studies with iodized oil and aspiration biopsy,[7] will insure better surgical results. The six cases reported are illustrative of the fact that pulmonary cancer simulates inflammation so closely that its presence may be overlooked because of the history and evidence of pulmonary infection.

Clay and Webster Streets.

MULTIPLE INTRACRANIAL TUMORS

A DISCUSSION OF THE RELATION OF MENINGEAL TO ACOUSTIC TUMORS AND A REPORT OF A CASE

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It has been recognized that some relationship exists between meningeal growths and those tumors which arise from the nerve sheaths or their components, but only recently has the nature of this association been given any considerable study. Most of the interest has evolved about that special form of generalized neurofibromatosis in which the central nervous system is predominantly affected. Mainly through the work of Harbitz,[1] Preiser and Davenport [2] and Schaltenbrand,[3] generalized von Recklinghausen's disease has been long recognized as a familial disorder. Only recently, however, has it been shown that central neurofibromatosis is also hereditary in that special form of the disease and may be transmitted as a dominant trait with little or none of the peripheral manifestations of the disorder.[4]

A special variety of central neurofibromatosis, bilateral acoustic tumors, has been described by Gardner and Frazier [5] and Gardner [6] and also established on a familial and hereditary basis. Further reference to this peculiar form of the disease need not be made here other than to state that additional clinical and pathologic evidence of the nature of this condition is in preparation at the present time.

The tendency for the acoustic nerves to be involved in central neurofibromatosis has been noted, and in most reported instances unilateral or bilateral acoustic tumors were present as part of the diffuse involvement of the cranial nerve sheaths by their specific tumors.[7] There is usually some associated involvement of the meninges by their specific growths, but the degree varies considerably in the reported cases. The fact that gliomas as well as meningeal tumors are present in this condition has led to the concept that central neurofibromatosis is actually a disease process which involves all the binding tissues of the nervous system, including in its final picture specific tumors of the nerve sheaths, enveloping membranes and interstitial tissues of the central nervous system.

Unilateral (or solitary) acoustic tumors are relatively common and as far as can be determined at the present time bear no relationship to von Recklinghausen's disease or central neurofibromatosis. However, in rare instances they have been found, usually at autopsy, in association with other tumors, either of the central nervous system or elsewhere in the body.[8] As an example of the association of a unilateral acoustic tumor with a meningeal growth in which von Recklinghausen's disease played no apparent part, the following case is briefly reported:

History and Examination.—A white woman aged 48, who complained of numbness of the face and deafness of the left ear when she was first seen in consultation at Mount Sinai Hospital, for about three years had experienced paresthesias and finally numbness in the distribution of the left trigeminal nerve. Marked impairment of hearing with the left ear had been present for about one year and recently had been associated with tinnitus. During the three weeks prior to hospitalization facial palsy on the left side of the peripheral nerve type had appeared. There had been some instability on walking, but this had not been prominent in the clinical picture. Nausea and vomiting had been absent.

Neurologic examination revealed paralysis of the left trigeminal nerve; this was virtually complete in both the motor and the sensory divisions. There was a questionable weakness of the left lateral rectus muscle. There was complete deafness in the left ear, and practically no response was obtained from caloric stimulation of the vestibular apparatus. The sense of taste was absent over the posterior third of the tongue on the left side. There was definite facial palsy on the left side, peripheral in type. Horizontal nystagmus was present on lateral gaze, but ophthalmoscopic examination revealed no papilledema. Lumbar puncture showed normal pressure but a marked increase

6. These include:
Alexander, John: Total Pulmonary Lobectomy; Simple and Effective Two Stage Technic, Surg., Gynec. & Obst. **56**: 658-673 (March) 1933.
Allen, C. I., and Smith, F. J.: Primary Carcinoma of Lung, with Report of Case Treated by Operation, ibid. **55**: 151-161 (Aug.) 1932.
Brunn, Harold: Technic of Lobectomy in One Stage, ibid. **55**: 616-626 (Nov.) 1932.
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Graham, E. A., and Singer, J. J.: Successful Removal of Entire Lung for Carcinoma of Bronchus, J. A. M. A. **101**: 1371-1374 (Oct. 28) 1933.
Heuer, G. J.: Development of Lobectomy and Pneumonectomy in Man, J. Thoracic Surg. **3**: 560-572 (Aug.) 1934.
Overholt, R. H.: Primary Carcinoma of Lung: Surgical Extirpation, Am. J. Surg. **22**: 181-186 (Nov.) 1933.
Rienhoff, W. F., Jr.: Pneumonectomy: A Preliminary Report of the Operative Technic in Two Successful Cases, Bull. Johns Hopkins Hosp. **53**: 390-393 (Dec.) 1933.
Roberts, J. E. H., and Nelson, H. P.: Lobectomy; Technic and Report of Ten Cases, Brit. J. Surg. **21**: 277-301 (Oct.) 1933.
Shenstone, N. S., and Janes, R. M.: Experiences in Pulmonary Lobectomy, Canad. M. A. J. **27**: 138-145 (Aug.) 1932.
Young, A.: Primary Carcinoma of Upper Lobe of Left Lung; Case Treated Successfully by Lobectomy and Subsequent Thoracoplasty, Ann. Surg. **100**: 1-10 (July) 1934.
Graham.[2]

7. Martin, H. E., and Ellis, E. B.: Aspiration Biopsy, Surg., Gynec. & Obst. **59**: 578 (Oct.) 1934.

From the Neurosurgical Department of the Cleveland Clinic.
Dr. Merl M. Jackel and Dr. Siegfried Baumoel of Mount Sinai Hospital first saw the patient and referred her to one of us (W. J. G.). Dr. Allen Graham of the Department of Pathology, Cleveland Clinic Foundation Hospital, made available the facilities of his department.

1. Harbitz, Francis: Multiple Neurofibromatosis (von Recklinghausen's Disease), Arch. Int. Med. **3**: 32-65 (Feb.) 1909.
2. Preiser, S. A., and Davenport, C. B.: Multiple Neurofibromatosis and Its Inheritance, Am. J. M. Sc. **156**: 507-540 (Oct.) 1918.
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4. Turner, O. A., and Gardner, W. J.: Familial Involvement of Nervous System by Multiple Tumors of Sheaths and Enveloping Membranes: Hereditary, Clinical and Pathological Study of Central and Peripheral Neurofibromatosis, Am. J. Cancer **32**: 339-360 (March) 1938.
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6. Gardner, W. J.: Tumor of Spinal Cord Associated with Bilateral Acoustic Tumors, Arch. Neurol. & Psychiat. **24**: 1014-1022 (Nov.) 1930.
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8. Portuondo, B. C.: Case of Three Neoplasms, Am. J. Cancer **28**: 752-759 (Dec.) 1936.

in the total protein content of the fluid. Roentgenograms showed questionable erosion of the apex of the left petrous bone.

The clinical diagnosis was tumor of the left cerebellopontine angle, but, because of the late appearance of the auditory symptoms, some doubt was entertained that the growth was an acoustic tumor.

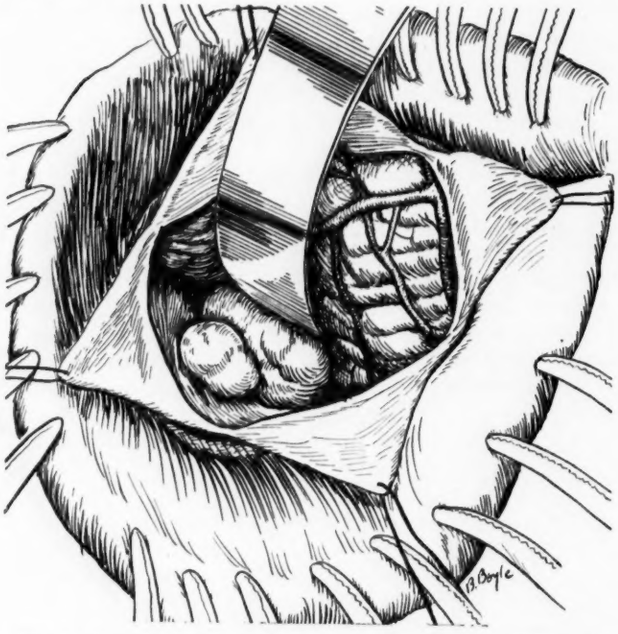

Fig. 1.—Drawing from operative sketch. The smaller growth proved to be of meningeal origin, while the independent larger tumor arose in the cerebellopontine angle from the eighth nerve, which was incorporated in the inferior medial aspect of the tumor.

Operation.—A unilateral suboccipital craniotomy was performed. On elevation of the left cerebellar lobe, a small tumor measuring about 1.5 cm. in diameter was found to be adherent to the dura over the posterior surface of the petrous bone just lateral to the porus acusticus. The tumor had an irregular surface and was reddish gray. Further examination revealed a much larger tumor anterior and medial to the tumor first encountered (fig. 1). This second growth differed materially from the first. Its surface was smooth and yellow, and, except for its attachment to the margins of the porus acusticus, it was entirely encapsulated and independent of the more laterally situated smaller dural tumor.

The meningeal growth was curetted away and its base cauterized. An incision was then made into the capsule of the larger tumor, and the contents were removed with the aspirator and curet. The tissue, which was relatively avascular, was soft, canary yellow and easily removable. Traction on the capsule then revealed the seventh and eighth nerves incorporated in the inferior and medial aspect of the tumor. Since it was not possible to separate these, they were divided and the entire capsule was removed. The only point of attachment was to the margin of the porus acusticus, which was found to measure about 12 mm. in diameter. The fifth nerve was found to be greatly elongated and flattened and was dislocated forward. Apparently moderate traction had also been exerted on the sixth and ninth nerves by the growth.

The postoperative course was uneventful. On the second day there was evidence of returning function of the left trigeminal nerve, and one month later sensation over the face was practically normal. At this time the gait and Romberg reaction were normal and the nystagmus was practically absent.

Pathology.—The small meningeal tumor proved to be a fairly typical fibroblastic meningioma corresponding closely to Cushing and Eisenhardt's[9] type III, variant 1. The tissue was composed of sheets of spindle-shaped cells with an abundance of cytoplasm and elongated nuclei with a moderately fine chromatin network. No mitotic figures were observed. The cells tended toward a parallel disposition with considerable streaming and interlacing of cell bundles (fig. 2). Only an occasional psammoma body was observed. There was an abundance of small vessels scattered throughout the tissue, and about these an occasional whorl formation could be observed. No suggestion of nuclear palisading was seen in several sections of the tumor.

On microscopic examination the larger tumor proved to be the seat of considerable degeneration but was unmistakably of the type variously referred to as perineurial fibroblastoma, neurinoma and schwannoma. Small nuclear palisades could be identified in various fields, but none of these were very marked. However, the typical pattern of interlacing cell bundles could be recognized despite the extensive degeneration. The uninvolved tissue was dense and cellular and composed of parallel bands of elongated cells which had indefinite cytoplasmic boundaries. No mitotic figures were observed. In the degenerated areas the cytoplasm appeared granular and wide spaced and the tissue was edematous and reticular in appearance.

COMMENT

It is improbable that the meningeal tumor was in any way related to the atypical symptoms in this case. Such small meningeal growths are rare in the subtentorial region and when present give rise to symptoms only when they are so situated as to impinge on one or more of the cranial nerves, usually at their exit from the cranial cavity. They may be found, however, as a part of central neurofibromatosis or meningiomatosis. The latter condition by itself may or may not be a manifestation of von Recklinghausen's disease, and the differentiation here is not always easy.

Cushing and Eisenhardt[9] have described a case, previously recorded by Monrad-Krohn,[10] of a small solitary meningioma which arose from the porus acusticus and produced localizing signs. The growth was removed at operation and on microscopic examination proved to be a fibroblastic meningioma containing numerous psammoma bodies. The literature on meningiomas of the cerebellar chamber has been reviewed by these authors.

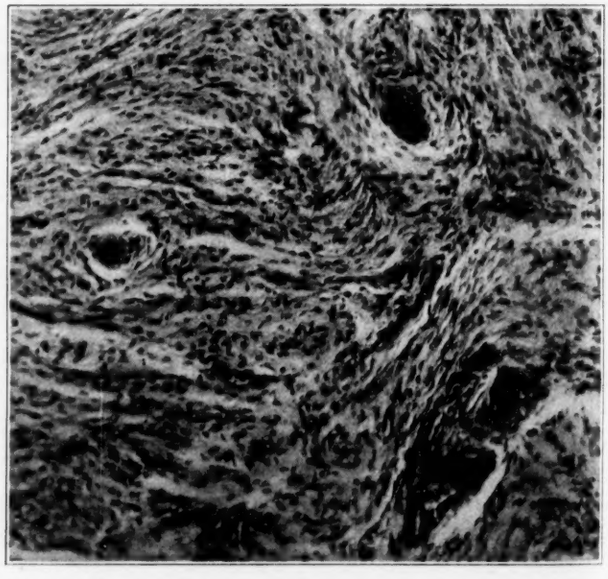

Fig. 2.—The meningeal tumor. Note the fibrous character of the tissue and the tendency toward streaming and interlacing of cell bundles. (Hematoxylin and eosin stain × 130.)

The association of single acoustic tumors with one or more meningeal tumors has been reported from time

9. Cushing, Harvey, and Eisenhardt, Louise: Meningiomas, Springfield, Ill., Charles C. Thomas, Publisher, 1938, pp. 40 and 199.

10. Monrad-Krohn, G. H.: Case of Fibrous Meningioma (Psammoma) in the Cerebellopontine Angle, Acta psychiat. et neurol. 4: 203-216, 1929.

to time, and it is difficult in such cases to determine whether or not the condition is a form of von Recklinghausen's disease. It seems likely, however, that these cases, such as the one reported here, represent an incomplete or abortive form of the disease. Cushing and Eisenhardt [9] have stated that the three conditions single acoustic tumor, bilateral acoustic tumor and generalized involvement of the cranial nerves appear to be gradations of the same malady and do not represent different disorders. Further study is needed on this subject, particularly in respect to the position of the single acoustic tumor.

RELAPSING FEBRILE NODULAR NONSUPPURATIVE PANNICULITIS

REPORT OF A CASE

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NEW YORK

The clinical syndrome of relapsing febrile nodular nonsuppurative panniculitis was first described by Pfeifer [1] in 1892 and by Gilchrist and Ketron [2] in 1916; it was reported in detail by Weber [3] in 1925 and again by Christian [4] in 1928, who added the term "febrile" to the terminology used by Weber. In 1933 Alderson and Way [5] and Netherton [6] reported cases. Subsequent reports by Weber [7] and by Brill [8] brought the total number of cases reported to eight. More recently, Bailey [9] has reviewed the subject and added five cases that fit into the same general pattern.

The name is descriptive of the process, which is characterized by recurrent attacks of malaise and fever of varying degrees, associated with subcutaneous nodules (localized inflammation of the panniculus adiposus). The nodules may show various degrees of erythema, mottled brawny pigmentation and tenderness. They do not tend to suppurate and may undergo spontaneous regression, often resulting in localized atrophy and depressions in the contour of the skin. Residual areas of thickening may show cutaneous attachment. The syndrome is generally confused clinically with erythema nodosum, erythema induratum, nodular syphilis or migratory phlebitis.

Of the thirteen cases reported in the literature, eleven were in females and two were in males. Obesity has appeared to be a rather common feature. Christian's patient was seriously ill during the febrile attacks. One of the cases reported by Bailey presented a protracted severe course without remission and terminated in death. The confining nature of the attacks in the reported cases seems to have depended on the stage in which the particular case was observed.

The histologic features of the excised nodules are fat necrosis and liquefaction, a mild degree of fibrosis and the presence of phagocytic cells for fat associated with multinucleated cells.

The etiology seems associated with infected teeth and tonsils and with rheumatism. Possibly the ingestion of bromides and iodides or other drugs associated with the treatment of acute and chronic rheumatic disease is a factor. Stockman [10] in 1928 called attention to "chronic muscular rheumatism and panniculitis." Christian pointed out that the nodular form of the panniculitis described by Stockman resembles the syndrome in question.

In the reported cases the nodules were localized in the subcutaneous tissues of the extremities and the trunk. In the case here reported the nodules appeared first in the panniculus adiposus of the breasts, where they remained predominant. Similar subcutaneous nodules appeared on the extremities (fig. 1). Aspiration biopsy of the nodules (with a 17 gage needle) was productive of a thick greenish yellow mucoid material (sterile for organisms, including smears and cultures for tubercle bacilli). The same material was obtained from the nodules irrespective of their location and was reported by the laboratory as liquefied fat containing rare leukocytes. Microscopic examination of an excised nodule showed inflammatory fat necrosis (fig. 2). The material aspirated from the breasts was not confused with typical duct stasis and was identical with the material aspirated from the nodules on the extremities.

Fig. 1.—Relapsing febrile nodular nonsuppurative panniculitis, showing the distribution of the lesions and the degree of involvement of the breasts.

Menville [11] in his discussion of fatty tissue tumors of the breast, including lipomas, fat necrosis and xanthomas, concludes that at times such benign lesions cannot be differentiated clinically from malignant tumors. Menville made no mention of the syndrome in question.

In the case here reportel some of the nodules during stages of regression, and particularly those which appeared in the breasts, were clinically quite similar to neoplasms. During the early stages the lesions in the breasts were soft, cystic and inflammatory. There was no discharge from the nipple. The lesions were not confused clinically with "plasma cell mastitis" described by Adair.[12] Subsequent regression of the lesions gave them a clinical similarity to multiple fibro-adenomas of the breast. Isolated nodules showed more or less cutaneous attachment not unlike that of cancer of the breast. Aspiration biopsy was of value in the differential diagnosis and a definite aid in establishing the similar character of the widely distributed nodules.

A preliminary review of the case histories in the breast clinic of the Memorial Hospital revealed that

From the Breast Clinic of Frank E. Adair, M.D. (for the treatment of cancer and allied diseases), Memorial Hospital.

1. Pfeifer, Victor: Ueber einen Fall von herdweiser Atrophie des subcutanen Fettgewebes, Deutsches Arch. f. klin. Med. **50**: 438, 1892.
2. Gilchrist, T. C., and Ketron, L. W.: A Unique Case of Atrophy of the Fatty Layer of the Skin, Preceded by the Ingestion of the Fat by Large Phagocytic Cells, Macrophages, Bull. Johns Hopkins Hosp. **26**: 291 (Oct.) 1916.
3. Weber, F. P.: A Case of Relapsing Nonsuppurative Nodular Panniculitis, Showing Phagocytosis of Subcutaneous Fat Cells by Macrophages, Brit. J. Dermat. **37**: 301 (July) 1925.
4. Christian, H. A.: Relapsing Febrile Nodular Nonsuppurative Panniculitis, Arch. Int. Med. **42**: 338 (Sept.) 1928.
5. Alderson, H. E., and Way, S. C.: Relapsing Febrile Nonsuppurative Panniculitis (Weber), Arch. Dermat. & Syph. **27**: 440 (March) 1933.
6. Netherton, E. W.: Relapsing Nodular Nonsuppurative Panniculitis, Arch. Dermat. & Syph. **28**: 258 (Aug.) 1933.
7. Weber, F. P.: A Further Note on Relapsing Febrile Nodular Nonsuppurative Panniculitis, Brit. J. Dermat. **47**: 230 (June) 1935.
8. Brill, I. C.: Relapsing Febrile Nodular Nonsuppurative Panniculitis (Weber-Christian Disease), M. Papers, Christian Birthday Vol., p. 694, 1936.
9. Bailey, R. J.: Relapsing Febrile Nodular Nonsuppurative Panniculitis, J. A. M. A. **109**: 1419 (Oct. 30) 1937.
10. Stockman, R.: Chronic Muscular Rheumatism and Panniculitis, Brit. M. J. **1**: 293 (Feb. 25) 1928.
11. Menville, J. G.: Fatty Tissue Tumors of the Breast, Am. J. Cancer **24**: 797 (Aug.) 1935.
12. Adair, F. E.: Plasma Cell Mastitis: A Lesion Simulating Mammary Carcinoma, Arch. Surg. **26**: 735 (May) 1933.

in approximately 50 per cent of the cases listed under the diagnosis of traumatic fat necrosis [13] there was no definite history of trauma. This observation has been mentioned by others who have contributed to the subject of traumatic fat necrosis. Perhaps half of such patients presented evidence of a definite extrinsic trauma or gave a history of a blow associated with

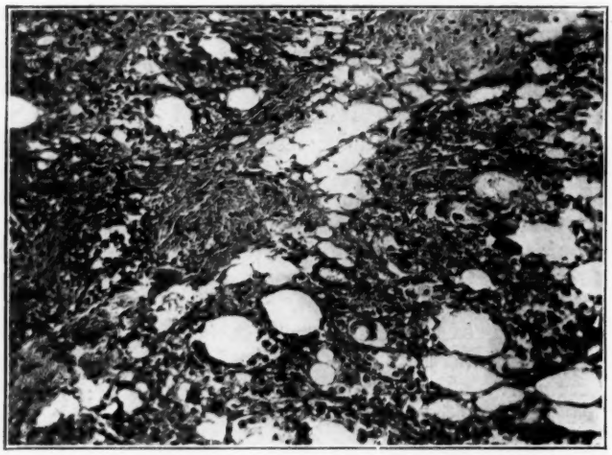

Fig. 2.—Section of the excised nodule showing fat necrosis and the presence of phagocytic cells for fat associated with multinucleated cells.

ecchymosis, or a trauma incidental to a hypodermoclysis received in the subpectoral region. There appears to be a repeated finding in the past histories of the patients who had no definite history of trauma, namely systemic infection. Obesity also seems to have been a rather common occurrence. Infections of the teeth and tonsils, rheumatism, cholecystitis, typhoid, pelvic inflammation and phlebitis were noteworthy. The histories of these cases are now being analyzed, and preliminary studies seem to favor a division of the group presenting clinical traumatic fat necrosis into (1) those cases in which a history of trauma to the breast is definite and (2) those in which there is no history of trauma. In the latter group the patients tend toward obesity and have pendulous breasts. Their past histories generally disclose evidence of chronic foci of infection. In the late stages the localized condition in the breast may show localized atrophy of the subcutaneous tissues, fibrosis, nodularity and cutaneous attachment. The histologic picture is that of inflammatory fat necrosis.

Further clinical studies may disclose that a definite disorder of the female breast, now obscure in the general classification of traumatic fat necrosis, may be best described as panniculitis of the breast or inflammatory fat necrosis. Such cases are not to be confused with the definite traumatic cases and in the future should be studied as a separate group with particular reference to evidence of panniculitis in other parts of the body.

The term panniculitis of the breast, therefore, is mentioned along with this case report of a more generalized and recognized syndrome (Weber-Christian) in an effort to reclassify certain disorders now rather obscure in clinical discussions of traumatic fat necrosis of the breast. All patients who have atypical nodules in the breasts and particularly those suspected of having inflammatory fat necrosis should be carefully studied and examined for evidence of a generalized syndrome (Weber-Christian).

It must be pointed out that, if further studies reveal that there is such a condition as local panniculitis of the breast, then cases of panniculitis of the breast should be considered separate and apart from the case here reported unless the clinical syndrome of relapsing febrile nodular nonsuppurative panniculitis (Weber-Christian) is complete in all the more generalized features.

13. Lee, B. J., and Adair, F. E.: Traumatic Fat Necrosis of the Female Breast and Its Differentiation from Carcinoma, Ann. Surg. **72:** 188 (Aug.) 1920; A Further Report on Traumatic Fat Necrosis of the Female Breast and Its Differentiation from Carcinoma, Surg., Gynec. & Obst. **34:** 521 (April) 1922; Traumatic Fat Necrosis of the Female Breast and Its Differentiation from Carcinoma, Ann. Surg. **80:** 670 (Nov.) 1924.

REPORT OF CASE

History.—A white woman aged *36*, a native American housewife, admitted to the diagnostic clinic March *23*, 1937, complained of lumps in the breasts of two months' duration. The family history did not reveal any history of tuberculosis, syphilis or other chronic infectious diseases.

The past history was significant in that she had suffered from intermittent attacks of rheumatoid arthritis. She had been hospitalized on several occasions during the previous six years because of painful joints associated with fever. She was never treated for symptoms referable to the heart during her stay in other hospitals. The patient stated that she had never had syphilis, though she gave a history of a macular cutaneous eruption associated with pruritus. The eruption would fade and disappear after a few days. There was no history of an excessive use of drugs. A blood Wassermann reaction six years previously was reported negative. Her menstrual history was essentially negative. Five months prior to admission to the clinic she had had an abortion performed. She had two children living and well.

Two months before admission to the clinic she first noticed a red spot and lump in her left breast. The region was not tender, yet the surrounding skin was swollen. Two weeks after the onset of the lump in her left breast a similar lump appeared in the right breast as an irregular, swollen soft area, covered with reddened skin. The localized swelling gradually subsided and the area became firm and nodular; the skin became darkened and bluish. Shortly after the onset of the second lump in the right breast two other lumps appeared in the left breast and were almost identical in their clinical course. At the onset the lumps appeared as localized areas of inflammation, then regressed without suppuration to form firm subcutaneous nodules with more or less attachment to the skin.

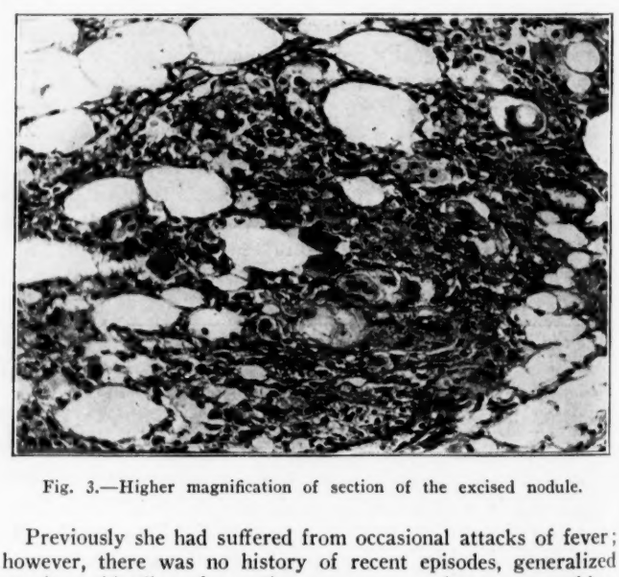

Fig. 3.—Higher magnification of section of the excised nodule.

Previously she had suffered from occasional attacks of fever; however, there was no history of recent episodes, generalized pruritus, bleeding from the mucous membranes, petechiae, cough, recent cutaneous rash or other significant systemic complaints. There was no history of trauma to the breasts, real breast pain or discharge from the nipple.

Two weeks before admission a lump very similar to the lumps in the breasts appeared in the calf of her right leg. No particular redness was noted. She believed that this lump was related to some form of varicose veins.

A few days before admission she consulted her family physician because of an aching pain in her left ankle. She was advised to consult the Memorial Hospital because of the condition of the breast.

The patient stated that she bruised easily and that at times dark areas appeared beneath the skin which were tender and which gradually disappeared over a period of ten days.

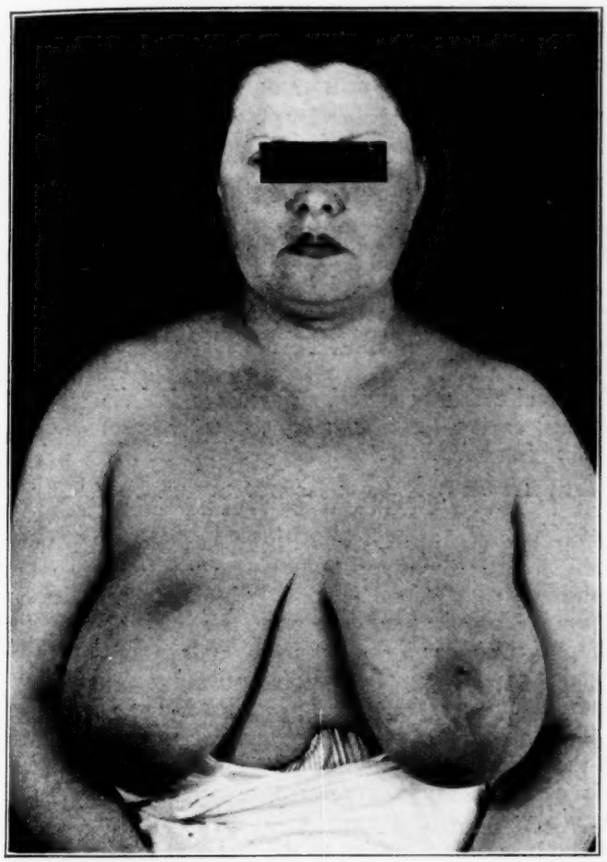

Fig. 4.—Appearance of patient March 4, 1937 (on admission), showing multiple areas of nodular nonsuppurative panniculitis of the breasts.

Examination.—The patient was obese, weighing 178 pounds (81 Kg.), with moderate hirsuties of the face. She was an intelligent person.

The head and ears were normal; the pupils were round and equal and reacted to light and to distance. The nose, mouth and mucous membranes were normal. Most of the molars had been extracted because of apical abscesses; the residual teeth were only fair. The tongue was normal but the tonsils were embedded and infected. The pharynx and larynx were normal. There was no significant adenopathy of the neck; the thyroid was not palpable. The chest and the lungs were clear to percussion and to auscultation. There was some thickening of the skin at the anterior portion of the chest wall and of the girdle region. The blood pressure, was 160 systolic, 100 diastolic, with a regular rate and rhythm and no definite murmur. The liver and spleen were not palpable. There were scratch marks on the skin (the patient stated that there had been no itching). No abdominal masses were elicited. The groins were normal. There was a boggy cervix; the os admitted one finger; there was chronic endocervicitis but no erosion. The corpus was not felt; the adnexa were normal. The rectum was essentially normal.

The fingers tapered with no clubbing. There were moderate varicosities of the right lower extremity. In the middle of the right calf was a subcutaneous nodule, measuring 1.25 by 1 cm., not tender, firm and attached to the skin. There were macular cutaneous lesions a few millimeters in diameter scattered over the lower extremities (not typical of petechiae).

Local examination of the right breast revealed a slight bluish discoloration at 12 o'clock 8 cm. from the margin of the areola. Palpation disclosed a firm mass, 2.5 by 3 cm. in diameter, which was not tender. There was cutaneous attachment with no definite dimpling. Transillumination disclosed a faint shadow. There was a tender node high in the right axilla, 1 cm. in diameter, which was movable. The nipple was normal, with no secretion.

There were three obvious deforming lumps in the left breast. The first, in the order of their appearance, was the one located in the lateral or upper outer quadrant and measuring 3 by 3 cm. There was a smaller cystic area located directly over this firm mass, 2.5 by 2.5 cm. in diameter. The skin over this area had a darkened, bluish discoloration. Passing counterclockwise, from 2 o'clock to 12:30, a bulging, brownish mass measuring 3 cm. in diameter was observed. There was superficial fluctuation over this region, which was not tender. The induration extended in all directions, producing a mass with an irregular erythematous blush measuring 4 cm. in its longest diameter and extending to a point just outside the margin of the areola. This lesion was the most recent one and the overlying skin was red. Despite the redness there was no localized heat and but the slightest tenderness. This nodule measured 3 by 3 cm. and the central portion felt slightly fluctuant over an area measuring 2 by 2 cm. There was a node 1.5 cm. in diameter in the left axilla.

The provisional diagnosis was multiple bilateral cystic disease of the breasts with duct stasis. Infectious origin? Erythema nodosum?

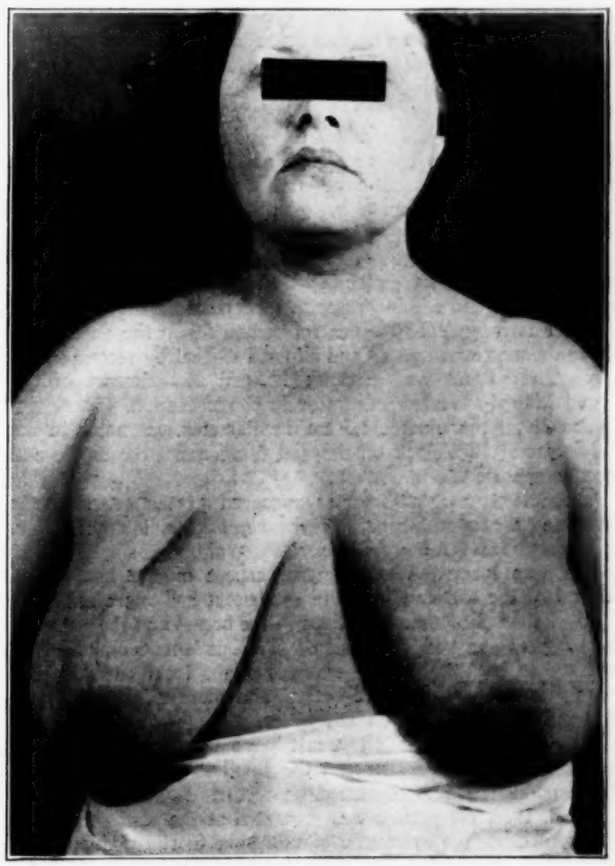

Fig. 5.—Appearance Nov. 23, 1937 (after biopsy), showing regression of the nodules in the adipose tissues of the breasts.

The patient was referred to the breast department for further studies.

Follow-Up Notes.—March 24 the patient was seen in the breast department, where the condition was deemed unusual. A request was made for aspiration biopsy of the multiple areas.

The following day three areas in the left breast and two in the right breast were aspirated by means of a 17 gage needle. The nodule in the calf of the right leg was also aspirated. Thick, greenish yellow mucoid material was aspirated from the nodule in the leg. The same material was aspirated from the

nodules in the breasts. The laboratory reported that all specimens showed thick mucoid material with rare leukocytes. They were negative for acid-fast bacilli, nor was there any suggestion of tubercle structure. Culture yielded no growth on the fourth day. (There was no growth on the eighth day.) Stained specimens were negative for organisms.

March 29 another typical area was discovered in the left popliteal fossa; aspiration was productive of similar material. The laboratory report was "liquefied fat." There were no organisms on stained smear; cultures yielded negative results. The cultures taken previously were still negative. The absence of organisms and the failure of cultures to yield results would suggest, of course, that this might be part of the rheumatic picture.

April 1 the patient was presented at the regular staff conference for general discussion and opinions. It was suggested that an area in the breast be excised for biopsy.

April 9 the patient was admitted to the hospital for a local excision of a typical area in the breast. On admission she gave a history of malaise and chilly sensations of several days' duration. The admission temperature was 100.8 F., pulse 100, respiratory rate 20. The general examination was essentially unchanged except that there appeared to be some regression in the size of the nodules.

The results of laboratory examinations revealed the following: Urinalysis was negative. Blood smear showed a normal differential; hemoglobin 85 per cent (Tallqvist), red blood cells 4,444,000, white blood cells 13,000. Blood sugar was 83.8 mg. per hundred cubic centimeters. The Wassermann reaction of the blood: alcohol negative, cholesterol negative; Kahn reaction of the blood, negative. Agglutination tests on the blood for typhoid, paratyphoid A and B, Brucella and typhus were negative.

April 12 under cyclopropane anesthesia a radial incision was made over the mass in the upper inner quadrant of the right breast. The mass was removed intact. There was no connection in the form of ducts between the mass and the breast tissue. The wound was closed with a small rubber tube drain.

Histologic examination of the excised specimen was reported as "inflammatory fat necrosis." Postoperatively the wound continued to drain a thin brownish mucopurulent material. The wound was irrigated. Tissues refused to fill in the dead space and the wound was opened and allowed to heal by second intention. The patient was discharged April 25. Smears of the wound May 4 revealed streptococcic contamination.

June 21 another nodule 1.5 cm. in diameter was noted in the left breast at 12 o'clock on the dial 6 cm. from the nipple and another new nodule at 7 o'clock.

A nodule 1 cm. in diameter appeared in the subcutaneous tissues of the lateral aspect of the right knee, another 2 cm. in diameter was found in the right groin. A small typical nodule was located in the lateral aspect of the left elbow. Several of the earlier nodules in the breast had regressed.

July 1 the subcutaneous nodules in the breast and the extremities showed marked regression. The patient complained of swelling in both knees. There was slight local edema. The heart rate and rhythm were normal and there was no murmur. The patient was placed on salicylates.

November 22 in the left breast were two residual nodules, the largest 15 cm. in diameter, the smallest 0.5 cm. The rest of the nodularity had regressed.

Jan. 3, 1938, the patient was presented at the staff conference as representing the syndrome of relapsing febrile nodular nonsuppurative panniculitis (Weber-Christian disease).

January 11, chemical analysis of the blood showed total blood lipids 644 mg. per hundred cubic centimeters of serum, phospholipids 144 mg., free cholesterol 55 mg. and cholesterol esters 122 mg. These figures are regarded as within the normal range according to the values of Van Slyke and his co-workers.

One week previous to February 7 she noticed a rather inflamed erythematous area over the left crest of the ilium which had progressively enlarged. The area was firm, subcutaneous and only slightly tender. The induration involved a portion of the girdle fat and measured 7 by 4 cm. The area appeared more hemorrhagic than the lesions observed in the breast, but the general appearance was much the same and appeared to represent nonsuppurative panniculitis.

April 1 the area of panniculitis in the left groin had regressed. The induration was said to have remained about three weeks after the initial appearance. There was no suppuration. Three weeks previously another similar nodule had appeared on the inner aspect of the right arm. After ten days this area also regressed without suppuration. The patient had had no chills or fever during the previous three months and was free from pains in the joints. Aspiration of a small residual nodule in the left breast was productive of 0.5 cc. of liquefied fat. The patient was to return in one month for observation.

SUMMARY

In the case of relapsing febrile nodular nonsuppurative panniculitis here presented the first noticeable nodules appeared in the fatty tissues of the breasts.

The patient had a definite episode of moderately severe relapsing fever associated with the appearance of multiple nodular nonsuppurative areas of panniculitis. Her family physician discovered lumps in her breasts which he believed resembled cysts or possibly neoplasms.

During her observation in the breast clinic of the Memorial Hospital she was never actually confined to her bed except for a short period for clinical studies. The nodules regressed during a period of three weeks to a month from their initial onset, without suppuration but with residual evidence of thickening and persistent cutaneous attachment in some instances. Sporadic new nodules made their appearance on occasions generally associated with a mild malaise. Two such episodes of minor importance occurred during the year of follow-up visits to the clinic. During each minor attack areas of nodular panniculitis appeared, associated with relapsing fever, chilly sensations and mild pains in the joints.

The laboratory studies, including chemical analysis of the blood lipids, disclosed no unusual changes. In this case the etiology seemed associated with rheumatism.

The case calls attention to the fact that localized panniculitis of the female breasts probably occurs separately and apart from the general syndrome here described. Preliminary studies of a group of patients seems to indicate that nonsuppurative panniculitis of the breasts may produce an inflammatory fat necrosis that resembles the definite traumatic fat necrosis so often confused clinically with cancer.

NOTE.—Recent late reports by Cummins and Lever [14] and by Shaffer [15] are highly suggestive of an addition of three more cases to the literature. Shaffer's case differed in that the lipolytic response in the subcutaneous fat appeared more active than the fibroblastic response.

CONCLUSIONS

1. Nonsuppurative subcutaneous nodules, occurring in and about the female breasts, should arouse suspicion of the clinical syndrome of relapsing febrile nodular nonsuppurative panniculitis (Weber-Christian disease).

2. Aspiration biopsy, though not diagnostic, may prove helpful in leading to the recognition of the similarity of widely distributed nodules.

3. In certain stages the nodules may be confused clinically with various subcutaneous tumors, and because of this fact the clinical syndrome should be called to the attention of the general surgeon.

14. Cummins, Loretta Joy, and Lever, W. F.: Relapsing Febrile Nodular Nonsuppurative Panniculitis (Weber-Christian Disease): Report of Two Cases, Arch. Dermat. & Syph. **38**: 415 (Sept.) 1938.

15. Shaffer, Bertram: Liquefying Nodular Panniculitis, Arch. Dermat. & Syph. **38**: 535 (Oct.) 1938.

METHODS FOR CONTROLLING SCHISTOSOME DERMATITIS

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MADISON, WIS.

It was shown by Cort [1] in 1928 that a type of dermatitis is produced by the penetration of certain larval flukes, schistosome cercariae, into the human skin from water. This disease, which is known by various common names such as "swimmer's itch" or "water rash," was given the name schistosome dermatitis by Cort, and he suggested at that time that a dermatitis produced by the penetration of these cercariae might have a widespread occurrence. This has proved to be the case, for reports of the presence of "swimmer's itch" in other regions both in North America (Minnesota [2] and Manitoba [3]) and in Europe (Wales,[4] Germany [5] and France [6]) soon appeared. While a number of reports, summarized by Cort,[7] show that the disease is scattered over the United States, it seems to be most prevalent in the lake regions of the North Central states, including Minnesota, Wisconsin and Michigan, and in the adjoining Canadian province of Manitoba. Besides furnishing a favorable habitat for the snail hosts of the cercariae, these lakes are popular for bathing, thus bringing man into direct association with the causative organism.

Because of its transitory nature, schistosome dermatitis is not serious except in the occasional cases of extreme exposure, but it is important in the United States and Canada because it is sufficiently annoying to be an economic detriment in any resort area where it occurs. In recent years in Wisconsin it has attracted attention and apparently injured resort business to such an extent in some localities that the Wisconsin State Board of Health in cooperation with the University of Wisconsin [8] has undertaken to study the factors influencing its occurrence with the hope of controlling it. Investigations during 1938 and records from previous years indicate that, with the exception of one or two localities, the seriousness of this disease in Wisconsin has been exaggerated and that usually only a few cases actually occurred where many had been reported to the board of health. The cercariae have nowhere in Wisconsin been found in exceptional abundance, but of course they may become abundant in years to come. That cases of this disease may actually occur in great numbers in some places is indicated by several records in the literature. McLeod [9] and Swales [9] reported it as afflicting a great many bathers at Clear Lake in Manitoba, and investigations in Michigan [7] show that schistosome dermatitis is widespread and of common occurrence in this state. In addition, in an unpublished record Cort has pointed out that the condition was unusually severe in the summer of 1938 at several lakes in the northern part of the southern peninsula of Michigan.

This paper presents the results of the investigations in Wisconsin so that they will be available for use in future work, since the control of schistosome dermatitis will undoubtedly receive increasing attention.

Some preliminary remarks concerning the nature of the parasite, its distribution and its host relationships will make the subsequent discussion clearer. Four species of schistosome cercariae in Wisconsin and neighboring areas have been shown capable of producing dermatitis. These are Cercaria elvae, found in the snails Lymnaea stagnalis and Stagnicola palustris; Cercaria stagnicolae, found in the snail Stagnicola emarginata; Cercaria physellae, found in species of the snail genus Physa, and the cercaria of Schistosomatium douthitti,[10] found in marsh-dwelling varieties of Lymnaea stagnalis and Stagnicola palustris. Of these four, the life cycle of only the last one is known. It is completed in meadow mice and possibly in muskrats. However, it is the three whose cycles are unknown that are the most important causes of dermatitis on swimming beaches.

Evidence such as the distribution of the cercariae and the fact that they generally appear for only a few weeks each summer seems to indicate that the life cycle of these three species may be completed in migratory birds that have dropped eggs of these worms into the lake waters during their spring migration northward. In fact, adult schistosome worms have been found in blue-winged teal, herring gulls [11] and several species of diving ducks [12] in Canada by McLeod, and I have found a high percentage of blue-winged teal from certain Wisconsin areas infested with the schistosome Pseudobilharziella querquedulae McLeod, 1937. The fact that several species of cercariae and snails may be involved in outbreaks of dermatitis is important in any consideration of control. Since different species of snails have different habits and are found under varying conditions, the methods of attack cannot always be the same. Some snails are found in small pools that can be easily treated with chemicals, while others live in larger lakes, where the whole body of water cannot be treated. In the latter case the snails may be successfully attacked if they occur in limited beds, but others in larger lakes are so widespread that to kill them would be very difficult. Under favorable conditions schistosome dermatitis can probably be controlled most effectively by destroying the snail host. This phase of the problem will be considered first.

RESULTS OBTAINED WITH COPPER SULFATE

In all the attempts to kill snails of which I know, copper sulfate has been used. This is probably due to the experience gained in the use of this compound for the treatment of drinking water reservoirs, where it was

From the Department of Zoology, University of Wisconsin, and the Wisconsin State Board of Health.

Acknowledgment is made to the Bureau of Sanitary Engineering of the Wisconsin State Board of Health for assistance and cooperation, to District Sanitary Engineer Mr. Charles Senn for the active part he took in the field experiments at Plum Lake and to Dr. W. W. Cort of the School of Hygiene and Public Health, the Johns Hopkins University, Baltimore, for suggestions and for permission to refer to some unpublished work.

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2. Christenson, R. O., and Greene, W. P.: Studies on the Biological and Medical Aspects of "Swimmer's" Itch: Schistosome Dermatitis in Minnesota, Minnesota Med. **11:** 573-575 (Sept.) 1928.
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10. Price, H. F.: Life History of Schistosomatium Douthitti (Cort). Am. J. Hyg. **13:** 685-727 (May) 1931.
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12. McLeod, J. A.: Further Notes on Cercarial Dermatitis, Tr. Roy. Soc. Canada **30,** Sect. V: 39-48, 1936.

found that copper sulfate was lethal to many organisms besides the plankton.[13] The first attempt to control schistosome dermatitis by the use of copper sulfate to kill the snails was at an artificial lake in one of the municipal parks of Cardiff, Wales,[14] shortly after the cause of this disease was discovered.[1] Many snails were killed with an initial dose of copper sulfate at a concentration of 2 parts per million and the outbreak was stopped. However, the dermatitis reappeared and it was found necessary to treat the lake again at regular intervals. After each successive treatment more snails were found dead, indicating that at least some of the snails resisted one or several exposures to the chemical.

The successful use of copper sulfate at Cardiff led Cort and his co-workers (unpublished record) to use it in an attempt to control the dermatitis at a beach on Little Traverse Bay of Lake Michigan, close to Harbor Springs, Mich. This area consists of a small bay not over 200 yards in its greatest diameter nor deeper than 8 feet and practically cut off from the main lake by sand bars that reach almost to the surface. Relatively large quantities of the chemical were used in several applications before the snails were completely controlled. A third and also unpublished record of the successful use of copper sulfate concerns a small artificial pool made by damming a stream near Beaver Dam, Wis., for recreational bathing. When "swimmer's itch" suddenly broke out there in 1937, the district sanitary engineer of the Wisconsin State Board of Health suspected that it was schistosome dermatitis when he found that the pool had a large snail population. He recommended the application of copper sulfate, and enough of this chemical was introduced to make what must have been a reasonably high concentration. Many snails were killed and the outbreak of dermatitis was checked. Here one application appeared to be successful, but I made an investigation of the area in the summer of 1938 which revealed the fact that the snail population had again been built up to a high level. However, no outbreaks occurred during that summer because the snails did not become infested.

Experimental schistosome dermatitis, showing protection obtained from brisk rubbing of exposed areas. The left foot was wiped immediately after removal from infested water.

It is to be noted that the three areas where copper sulfate has been used with apparent success have two significant characters in common: (1) they are all small and isolated bodies of water and (2) they are important primarily for bathing. At Cardiff and Beaver Dam the pools are artificial, and at Harbor Springs the area involved is a small, isolated bay almost completely cut off from the main body of water. In all these areas the danger of killing fish was a minor consideration or did not exist. As far as is known there are no other records of the successful use of copper sulfate to kill snails in the control of schistosome dermatitis. It is true that Swales suggested the use of this substance at Clear Lake, Manitoba, but results have apparently been similar to those described for Plum Lake, Wisconsin.

Surveys of the outbreaks of schistosome dermatitis in Wisconsin showed that, with the exception of the Beaver Dam area and one river area, the trouble occurred in lakes so large that it would be difficult to treat the whole volume and where the possibility of killing fish must be considered. In these larger lakes chemicals may be used successfully if the snails are concentrated in limited beds in shallow water so that only small areas of the lake need be treated. However, if the snails are widely scattered the possibility of killing them is undoubtedly out of the question. Plum Lake, Wisconsin, where the beach snail Stagnicola emarginata occurs in restricted beds, was chosen for a trial of the effectiveness of using a chemical on a limited part of a whole lake. Copper sulfate was applied to a bed of snails which was found on the beach of a summer resort where schistosome dermatitis had been very troublesome for several summers. The first application, calculated to be a concentration of copper sulfate of 1 part per million, killed quite a few snails but many survived and the cases of dermatitis did not stop. Another application of about 6 parts per million killed more snails but many were still alive the next day. In addition quite a number of perch fry were killed close to shore, but no larger fish were harmed. Two more applications of copper sulfate, in concentrations of from 6 to 10 parts per million, killed all the young snails on the beach, although some adults still survived. Occasional cases of dermatitis subsequently occurred, but since beds of infested snails were present in other parts of the lake, even within 300 yards of this experimental area, cercariae may have been drifting in on water currents. This experiment gave results similar to those obtained in the three areas previously described, that is, it was apparent that copper sulfate must be used repeatedly or in relatively high concentrations in order to produce a significant reduction in a snail population. In addition it was definitely shown that if the distributing equipment is of a type that does not insure immediate dispersion of the chemical, small fish at least are killed with concentrations that are not completely effective in eliminating snails. It is also suggested that cercariae drifting in from other parts of the lake may continue to give trouble on a beach of this nature.

13. Whipple, G. C.: Microscopy of Drinking Water, revised by G. M. Fair and M. C. Whipple, ed. 4, New York, J. Wiley & Sons, 1927.
14. Cort, W. W.: Studies on Schistosome Dermatitis: I. Present Status of the Subject, Am. J. Hyg. **23**: 349-371 (March) 1936.

The evidence accumulated from the reports recorded and from others [15] concerning the killing of fish with copper sulfate, combined with the results of some preliminary laboratory experiments carried on by me and by the conservation department and the state board of health of Wisconsin, lead to the conclusion that copper sulfate is not the most suitable chemical to use in the control of schistosome dermatitis. Although it does kill snails it possesses two serious disadvantages, namely (1) under certain conditions it is dangerous to fish life and (2) it is rapidly lost from solution. Copper sulfate is lost in three ways: (1) by natural run-off or by convection and wind currents, (2) by forming a combination with organic matter and (3) by forming an insoluble carbonate in hard water. At least the first and third methods of loss must always be considered as variable factors, since the dilution of the chemical by the mixing effects of wind currents in larger lakes is obviously important and since the water most favorable for snails important in this disease is of varying hardness and alkalinity. This rapid loss of copper sulfate from solution is very important, because experiments show that snails must remain in a 1 part per million solution for a period longer than from seven to twenty-four hours, depending on such conditions as temperature, or they can revive in the presence of fresh water. It is evident then that no recommendation can be given for determining the amount of copper sulfate to be used without first determining the factors involved in the individual case. These factors can be determined only by an experienced person, an important point to be considered in any extensive efforts to control schistosome dermatitis.

RESULTS OBTAINED WITH COPPER CARBONATE

In the search for a more suitable compound for killing snails, copper salts were found to have by far the most lethal action, while many other compounds in reasonable dilutions had no effect at all. Of the copper salts copper carbonate ($CuCO_3 \cdot Cu(OH)_2$) seems to be the most promising. Because of its low solubility it is possible that even in the presence of an excess of the compound there might be enough copper in solution to kill snails but not enough to endanger fish life. Experiments in the laboratory and field support this supposition. It has been conclusively shown that copper carbonate does kill all the important species of snails within two to five days. In addition fish are completely unaffected in water on the alkaline side of p_H 7 in aquariums in which there is enough of an excess of copper carbonate to form a noticeable deposit on the bottom and in which the snail populations have already been wholly killed by the chemical. While copper carbonate may cost more per pound than copper sulfate, it may not be more expensive to use, since less of it will probably be effective and it can be applied with less labor.

The following experiments illustrate the action of copper carbonate and indicate its possibilities:

EXPERIMENT 1.—A 2 parts per million solution of copper sulfate in distilled water was compared with a solution in which there was an excess of copper carbonate. Snails of the species Stagnicola emarginata were killed in both solutions but not in the control of untreated water. Several minnows lived in the control aquarium and in the one containing copper carbonate but died in a few hours in the one with copper sulfate.

EXPERIMENT 2.—Ten large Lymnaea stagnalis snails were killed in saturated copper carbonate while the controls were unharmed.

EXPERIMENT 3.—Ten large Lymnaea stagnalis snails were put in each of three aquariums. In the first a screen was arranged in such a way that the snails could not come in contact with or ingest the copper carbonate sprinkled on the bottom but were exposed to the copper that was in solution. They were fed lettuce. In the second aquarium the copper carbonate powder was sprinkled over the lettuce. At the outset the snails were seen eating the chemical. The third aquarium was a control containing only untreated water and lettuce. The snails in the first two aquariums were soon affected. This was best determined by noting that these snails stopped eating their lettuce while the controls continued to eat. In three days almost all the snails in aquariums 1 and 2 were dead and in five days they were all dead, while the controls were still living normally. This indicates that copper carbonate in solution is as lethal as when it is ingested or comes in direct contact with the snails.

EXPERIMENT 4.—Copper carbonate was applied to a shallow area in Plum Lake, Wisconsin, 100 by 75 feet in dimension and well populated with Stagnicola emarginata. This area was in all ways similar to the one treated with copper sulfate. One treatment with an amount calculated to be about four times enough to saturate the water was done. So far as could be determined this treatment seemed to be 100 per cent effective in destroying the snails. Comparison with the area treated with copper sulfate indicated that copper carbonate is much superior. Another area on the same lake treated with copper carbonate gave the same results.

EXPERIMENT 5.—After several preliminary experiments which showed that alkaline lake water with an excess of copper carbonate did not affect fish, the following critical experiment was performed: Four aquariums were set up. In two the water was adjusted to a p_H of 6.6, and in the other two the lake water, with a p_H of about 8.1, was left unchanged. Fifteen young sunfish and bluegills were put in each aquarium. Copper carbonate calculated to be approximately 200 times enough to saturate the water was added to one of each of the two sets. The test lasted three days at a temperature that was uniformly about 25 C. In the water with a p_H of 6.6 containing copper carbonate the fish started dying within five hours and continued to die throughout the experiment. Ten fish had died when the experiment was closed. Of the remaining five, four had been transferred to fresh water when they first showed signs of being affected by the chemical and were revived, while a single fish resisted the chemical to the end of the experiment. This clearly indicates that in acid water copper carbonate may be dangerous to fish life but that fish can revive if they reach untreated water before they are too far gone. On the contrary, not a single fish was killed by the copper carbonate in alkaline water with a p_H of from 7.9 to 8.1. Fortunately snails known to be important in the spread of "swimmer's itch" have been found only in alkaline water, in which copper carbonate seems definitely to be unharmful to fish.

COMPARISON OF THE PROPERTIES OF COPPER SULFATE AND OF COPPER CARBONATE

Since from the evidence presented it seems reasonably safe to conclude that copper carbonate may be a suitable chemical to use for killing snails in the control of schistosome dermatitis, it becomes significant to compare its properties with those of the only other chemical used at all extensively for the same purpose, namely copper sulfate. Copper carbonate if present in sufficient quantities to maintain a saturated solution for several days effectively kills snails of the important species but does not injure fish, while copper sulfate may kill fish under conditions in which snails are not completely destroyed. Because of the relatively low solubility of copper carbonate and the fact that the normal range of conditions found in lakes suitable for the snail hosts of schistosome cercariae does not alter

15. Smith, M. W.: The Use of Copper Sulfate for Eradicating the Predatory Fish Population of a Lake, Tr. Am. Fisheries Soc. **65**: 101-113, 1935.

its effect, rules can be established for determining the amount that should be added to the water, so that it can be used by relatively unskilled persons. On the other hand, copper sulfate is so affected by normal changes in lake conditions that it should be used only with expert supervision. This difference is of primary importance, especially where any extensive treatment is concerned. In addition, even though copper sulfate is used expertly enough to avoid the danger of killing fish, its reputation in this respect is such that its use must be constantly defended against criticism. Also, even with adequate supervision there seem to be enough uncontrollable factors to prevent its being completely effective, so that it must be applied a number of times. Since copper carbonate can safely be applied in excess, one treatment will usually suffice unless the snail population is rebuilt by some unusual type of influx from outside the area. From these comparisons I believe that the disadvantages of copper sulfate for killing snails outweigh the advantages, and until further evidence is obtained I suggest that copper carbonate may be the most effective, easiest and safest chemical to use in the control of schistosome dermatitis.

The following rule may be used in determining approximately the amount of copper carbonate to be added to the water: Calculate the number of cubic feet of water overlying the area to be treated and multiply this number by 0.0003 pound. This will give approximately the number of pounds of the copper carbonate necessary to saturate the volume of water in question. In our experiments so far, my associates and I have used about four times this amount in order to secure an excess which would serve as a constant source of copper ions. This estimate is merely a guess at the amount of excess necessary, but it seems to be satisfactory. If the material used is a commercial grade which is not 100 per cent copper carbonate, the difference will have to be accounted for by using a proportionately larger amount. There is no reason why the most inexpensive grade obtainable should not be used unless it contains dangerous impurities.

KILLING THE CERCARIAE

It is emphasized again that an attack on snails may be successful or feasible only in relatively small bodies of water or where the snails are concentrated in definite beds. In the latter event the bed of snails causing the trouble need not necessarily be right on or adjacent to the area afflicted but may be some distance away. However, if, as in a number of places in Wisconsin, the snails are too widely distributed to be successfully killed with chemicals, another method of preventing outbreaks of dermatitis suggests itself, namely that of killing the cercariae. This has the obvious disadvantage of being a very temporary measure, for a new swarm of cercariae may emerge each day during certain periods of the summer. Outbreaks in lakes in which the snails are widely distributed have not been extensively studied, because the snails in these lakes were not heavily infested with cercariae during the summer of 1938. There is evidence at hand, however, to suggest that a particular beach may not be troubled every day during the critical period. Very warm days with a slight onshore drift seem to favor the occurrence of the disease. Consequently, if methods could be devised for detecting or predicting the appearance of cercariae on a beach, the water would need be treated only when they are present.

In laboratory experiments schistosome cercariae have been shown to be remarkably resistant to a number of chemical compounds in reasonable dilution but extremely sensitive to high dilutions of formaldehyde. In a 0.03 per cent solution (solution of formaldehyde, U. S. P., is used as 100 per cent) schistosome cercariae were all killed in one minute or less. A 0.005 per cent solution killed them in five minutes, and a 0.0025 per cent solution killed them in from ten to fourteen minutes. Unfortunately, because of the scarcity of suitable outbreaks of dermatitis in the summer of 1938, formaldehyde has not been tried in the field. Nevertheless, the following suggestions for its use are made: In lakes where it seems advisable to attempt to kill the cercariae to control outbreaks of schistosome dermatitis, a formaldehyde solution might be sprayed on the surface of the water of the bathing beach with some type of insecticide sprayer. Studies of the cercariae indicate that they become concentrated at the surface of the water and that two of the species may also cling to floating weeds and débris. Consequently, it seems probable that only the upper layers of water need be considered in the treatment. The following method for determining the amount of the solution to be used is recommended: Determine in square feet the surface area of the water to be treated and divide this by 1,600. This will give the number of gallons of solution of formaldehyde necessary to make the top centimeter of water into a 0.25 per cent solution. When this amount of chemical diffuses into a layer of water 8 cm. thick, it will give a 0.03 per cent solution, which has been shown capable of killing cercariae in one minute. Even with further dilution of the substance, cercariae probably will still be affected. In order to obtain a more even distribution of the chemical, it should probably be diluted three or four or more times before being sprayed. Best results will probably be obtained by spraying in the morning before the beach is used. It has been shown that the cercariae emerge at daybreak,[16] and unless they drift in from great distances, the day's crop may be killed with one treatment at 8 or 9 a. m. The water should not be disturbed any more than necessary during the spraying and should be left undisturbed for about one-half hour afterward. Then, to obviate any danger to the bathers from the formaldehyde, a motor boat driven back and forth over the deeper parts and a row boat rowed in the shallower parts would mix the chemical with the water sufficiently to reduce its concentration down below any possible danger point. It is emphasized here that extreme care must be used with this substance to prevent injury to bathers.

A SIMPLE PROPHYLAXIS AGAINST SCHISTOSOME DERMATITIS

As mentioned earlier in this paper, records indicate that in a number of places in Wisconsin only a few people are troubled each year with schistosome dermatitis. In these places even if chemicals could be used to control the snails or the cercariae, the number of people involved might not justify the expenditure necessary. Consequently, some method was sought for protecting bathers before they enter or of treating them after they leave infested water to prevent an attack.

Since different persons have had some success in preventing schistosome dermatitis by rubbing the skin with such substances as alcohol, kerosene, gasoline, or soap immediately after bathing in infested waters, this

16. Cort, W. W., and Talbot, S. B.: Studies on Schistosome Dermatitis: III. Observations on the Behavior of the Dermatitis-Producing Schistosome Cercariae, Am. J. Hyg. **23**: 385-396 (March) 1936.

point was investigated with the hope of finding some easy method of prophylaxis for use where other methods of control are out of the question. Preliminary experiments suggested that the simple mechanical process of rubbing the skin was the effective agent in this procedure rather than the action of any chemical compound. Consequently a number of tests were made by immersing parts of the body of an experimental person, known to be susceptible to the disease, in water containing schistosome cercariae of the proper species. After certain periods of exposure, the parts were removed and an experimental area rubbed thoroughly, briskly and immediately with a towel, while the water was allowed to evaporate from a control area. In all cases typical lesions appeared on the control area, where the water evaporated, while fewer or no lesions appeared on the area that had been rubbed dry immediately on removal from the water. The accompanying illustration shows the results of a final, critical test. For this test, numbers of Cercaria stagnicolae that had recently emerged from beach snails Stagnicola emarginata were placed in a pail of water. Both feet of the experimental subject were immersed in the water for ten minutes and then removed. The left foot was wiped dry, while the other was allowed to dry by evaporation. Severe itching was soon felt on the right foot but not on the left. By the next day about 120 lesions could be counted on the right foot, which had not been wiped, and only one on the foot that had been wiped. From this study it is concluded that schistosome cercariae penetrate the skin of human beings largely if not entirely when the water is evaporating.

This idea is borne out by the observation that the worst dermatitis occurs in children who play in shallow water, where wet parts of the skin are constantly being exposed to evaporation, or in people going in and out of the water frequently. The friction of the towel apparently destroys the cercariae before they have had a chance to penetrate into the skin. Thus, if a bather remains completely immersed until he is through swimming and thoroughly wipes himself immediately on coming from the water, he may completely protect himself from an attack of schistosome dermatitis or at least materially decrease the extent of such an attack. It is emphasized that the rubbing must be done immediately, particularly on warm or windy days, when the water on the skin would evaporate rapidly. While this method of prophylaxis will not prove to be completely effective it will undoubtedly be of considerable value in many places. In addition it has the advantage of being simple and easy and involves no expense.

SUMMARY

Copper carbonate is recommended as a chemical to replace copper sulfate for killing snails in the control of schistosome dermatitis because it may be used safely by relatively unskilled persons and one application may be sufficient. Chemical treatment for destroying snails may be effective only in small isolated bodies of water or in larger lakes where the snails are concentrated in beds. In larger lakes where the snails are too widely distributed to be destroyed, it is suggested that the cercariae may be killed daily with solution of formaldehyde if enough cases of dermatitis occur to justify the procedure. This substance must be used with extreme care. Where these methods of control are unavailable or impracticable or the number of cases of dermatitis too few, vigorous wiping immediately after coming from infested water may be a useful prophylaxis.

HEREDITARY OSTEOCHONDRODYSTROPHIA DEFORMANS

A FAMILY WITH TWENTY MEMBERS AFFECTED IN FIVE GENERATIONS

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The term osteochondrodystrophy describes a developmental disease of the skeleton which produces many different clinical pictures. It is a defect, often familial, in the orderly growth of ossifying cartilage, which may result in almost complete arrest or in any degree of partial arrest of endochondral ossification. The resulting deformities will depend on what pattern the perverted cartilage growth follows. It may take the form of enchondromas remaining as multiple islands of cartilage cells within the epiphyses or shafts, of multiple cartilaginous exostoses (chondrodysplasia) in which outgrowths appear at the line of enchondral ossification between the epiphyses and diaphyses, of chondromas predominant on, if not limited to, one side or one limb (Ollier's disease) [1] or of a severe epiphysial disturbance in which the heads of the femurs are practically absent in most cases and there is marked kyphosis and dwarfism (Morquio's disease).[2] It seems likely that achondroplastic dwarfism is a related condition.

In addition to these types, which seem sufficiently well differentiated to have led various authors to designate them as specific diseases, a good many individual deformities have been reported in the literature, each having some characteristic which sets it slightly apart from all others. Among these are the ones reported by Lance,[3] Valentin,[4] Ellman,[5] Campbell,[6] Warkany and Mitchell,[7] Deutschländer,[8] Denks,[9] Coward and Nemir,[10] Siegert,[11] Ehrenfried,[12] Silfverskiöld,[13] Dale,[14] Turner,[15] Jansen [16] and Dwyer.[17] The terminology is thus confused and conditions doubtless belonging in this complicated group of congenital osseous dystrophies have been described under such titles as familial osteochondrodystrophy, dyschondroplasia foetalis, chondrodysplasia, osseous dystrophy, atypical achondroplasia,

From the Children's Hospital.

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3. Lance: Etude sur les platyspondylies; platyspondylies localisées; platyspondylies généralisées, Bull. et mém. Soc. nat. de chir. **53:** 132-141 (Feb. 12) 1927.
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9. Denks, cited by Aehlecker, Hen: Zentralbl. f. Chir. **57:** 1108, 1930.
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11. Siegert, F.: Der chondrodystrophische Zwergwichs (Mikromelie), Ergebn. d. inn. Med. u. Kinderh. **8:** 44-89, 1912.
12. Ehrenfried, Albert: Multiple Cartilaginous Exostoses—Hereditary Deforming Chondrodysplasia: A Brief Report on a Little Known Disease, J. A. M. A. **64:** 1642-1646 (May 15) 1915.
13. Silfverskiöld, N.: Atypic Achondroplasia and Its Peripheral Form, Acta radiol. **5:** 223-235, 1926.
14. Dale, J.: Unusual Forms of Familial Osteochondrodystrophy, Acta radiol. **12:** 337-358, 1931.
15. Turner, J. M.: Congenital Perversion of Growth, Proc. Roy. Soc. Med. **26:** 775-778 (April) 1933.
16. Jansen, M.: Atypical Chondrodystrophy and Study of Congenital Growth Disturbance of Bones: Metaphysial Dysostosis, Ztschr f. orthop. Chir. **61:** 253-286, 1934.
17. Dwyer, H. L.: Dyschondroplasia Foetalis, Am. J. Dis. Child. **44:** 776-797 (Oct.) 1932.

rachitic chondrodystrophy, dysostosis multiplex, osteodystrophia fibrosa, chondrodystrophic rheostosis, congenital perversion of growth, ecchondrodysplasia, Hurler's disease, gargoylism and familial rickets.

In many of the cases reported changes in the shape of the vertebral bodies have been noted. The bodies may be flattened (platyspondylisis), wedge shaped, oval or otherwise irregular and deformed. Valentin particularly called attention to the vertebral changes, which he considered one of the essential features of the disease. My four patients all showed such changes, and in two cases the characteristic picture was revealed by roentgenograms of the spine long before clinical changes were manifest.

Fig. 1 (case 1).—Note the short trunk and neck and the characteristic semi-crouching stance.

The cases here reported were of the type commonly referred to as Morquio's disease. This syndrome has been variously ascribed to a defect of calcium metabolism, a primary disorder to the nervous system, an endocrine disturbance and a primary hypermotility of the ligamentary apparatus; it has been designated as a forme fruste of achondroplasia of Parrot and as an osteochondropathy *sui generis*. At present there is fairly general agreement that it is a relatively rare variety of osteochondrodystrophy. Only about thirty typical cases have been reported since Morquio's description of the syndrome.

The story of the development of the deformities in the affected members of this family is the same in all cases. All were apparently normal at birth. At the age of 5 or 6 years the spinal changes had become sufficiently marked to be noticeable to the parents as a "round shoulder" posture. Thereafter the condition was inevitably slowly progressive until the characteristic deformity had occurred.

Of twenty persons in this family known to have inherited the defect, it has been possible to examine the four whose cases are reported. Examination, including roentgenograms, of six members of the family who were considered normal was made, and in these no bone defects were found.

CASE 1.—*History.*—J. L., a white boy aged 15, had appeared normal after a spontaneous birth, but as he began to grow his parents noticed that his body was not developing into the ordinary conformation. Gradually his shoulders seemed to be held higher, his neck to appear shorter and his chest to increase in size out of proportion to the rest of his body. In spite of the deformity he had always been well and active, walking and riding a bicycle until two weeks before admission to the hospital. At the age of 2 years he had measles followed by pneumonia, and the mother dated some apparent effort in breathing from this illness.

Two weeks before admission to the hospital he began to complain of pain in his back and of weakness. Several days later he collapsed on the floor because of pain, after which he was unable to get out of bed or even to lie comfortably.

Physical Examination.—The breathing was somewhat noisy because of mild asthmatic bronchitis. Otherwise no abnormalities were noted except the deformities of the body and the evident discomfort when voluntary movements, such as turning over in bed, were attempted. The patient was well below average height. The neck was very short. There were marked kyphosis and pigeon breast, with short trunk. There were moderate knock knee and flat foot and general muscular flabbiness. A psychologic examination showed the patient to be of average intelligence.

X-Ray Examination.—The vertebral bodies appeared flattened and broadened. The vertical dimensions were reduced about 30 per cent. Both superior and inferior borders were irregularly wavy as a result of unequally distributed disk pressure. The intervertebral disk spaces were narrowed, and in the middorsal region disk calcification was noted. Some squaring of the anterior margins of the vertebral bodies had occurred, and this was accompanied by the appearance of very early fringing. There was a moderate increase in the rounded dorsal kyphosis. The articular aspects of the ribs participated in the dysplasia, being flattened and broadened and showing a slight indentation in place of their normal articular tubercle. It was noted also that the angle between the neck and the shaft of the ribs was practically absent; anteriorly the ribs appeared slightly expanded at their costochondral junction and presented a ragged mixed cystic and sclerotic appearance such as is seen in disturbances of cartilage transformation into bone. The anteroposterior diameter of the chest was relatively increased.

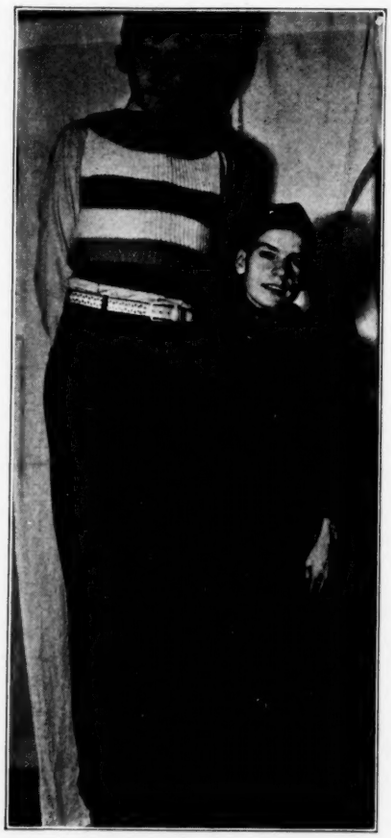

Fig. 2 (case 1).—J. L. at the age of 17, photographed beside a normal boy of the same age.

Repeated examinations of the urine gave entirely negative results. The hemoglobin content was 110 per cent, or 16 Gm. per hundred cubic centimeters. A blood count revealed 5,250,000 red cells and 6,800 white cells, with 80 per cent polymorphonuclears, 12 per cent lymphocytes and 4 per cent mononuclears. The sedimentation rate was 10 mm. and the blood calcium content was 8 mg. and the blood phosphorus content 4.76 mg. per hundred cubic centimeters.

Course.—Because of extreme pain in the back on any motion, particularly when the lower extremities were straightened out, the child was placed on a Bradford frame. Although several attempts were made in the course of the ensuing year to get him up, it was always necessary to return him to the frame. At the end of twelve months it was possible for him to leave the frame and walk with crutches without pain. It is now two years since his admission to the hospital; his spine is rigid and free from pain and he walks without difficulty.

CASE 2.—*History.*—W. P., aged 7½ years, a first cousin of patient 1 and a brother of patient 3, had a normal birth and

developed normally, walking at 9 months and talking at 12 months. He had had measles, whooping cough and a moderate number of colds. Since the age of 5 years he had complained of pain in his back and legs but had been able to lead an average active life.

Physical Examination.—Except for enlarged tonsils and palpable cervical lymph nodes, the only abnormalities noted were the conformation of the back and the posture. The abdomen was protuberant, there was rather marked lordosis and there was slight scoliosis. The left shoulder was held high and forward and the right shoulder lower and back. The gait was rather stiff.

Fig. 3 (case 2).—Note the beginning rounding of the upper back and lordosis.

X-Ray Examination. — Study of films of the lumbodorsal area and pelvis revealed an unusual alteration in the shape of the vertebral bodies, which was most marked from the seventh dorsal to the first lumbar vertebra. The bodies in this area appeared nearly ovoid in the lateral projection, the peripheral structures on both the superior and the inferior aspects being undeveloped. This ovoid appearance in conjunction with the anterior vascular indentation resulted in a vertebral body which, seen laterally, resembled a sunfish. The superior dorsal and lower lumbar vertebral bodies showed similar less marked changes, and a general flattening and decrease in the height of the bodies were present throughout. The normal rounded dorsal kyphosis was slightly exaggerated. In the pelvis there was an increased density on both sides of the sacro-iliac joints. Some loss of joint space was apparent. Both acetabulums were slightly enlarged, the appearance giving the impression that weight bearing had caused a slow, mild compression of their superior aspects. The superior margin showed beginning spur formation, and mixed cystic and sclerotic changes were present in both the acetabulums and the femoral heads. The latter presented slight flattening with mixed condensation and rarefaction suggestive of an osteochondritic process.

CASE 3.—*History.*—J. P., aged 3½ years, a brother of patient 2 and a cousin of patient 1, began to walk at 9 months and talked at 15 months. There were no complaints, and the history was irrelevant.

Physical Examination.—The patient seemed normal except for moderate lordosis. But for the knowledge of the spinal defect of the brother and cousin, this mild lordosis might not have been noted.

X-Ray Examination.—Studies of the dorsal and lumbar sections of the spine and of the pelvis revealed in the middorsal segments changes which were suggestive of the process noted in case 2. The sixth and seventh segments showed the rounded anterior aspect with increased vascular indentation, whereas the immediately adjacent bodies above and below showed a failure of squaring, which gave them a more ovoid appearance in the lateral projection. This process was accompanied by a slight flattening and broadening of the bodies, the lateral dimensions increasing at the expense of the vertical. The acetabular roofs showed slight condensation.

CASE 4.—*History and Examination.*—J. B., the grandfather of patients 1, 2 and 3, had a history of kyphosis beginning in childhood and growing gradually more pronounced until early manhood. No change was noted thereafter except increasing rigidity of the back and hips in recent years. He had been able to lead an ordinarily active life. Physical examination revealed the changes noted in figure 4.

X-Ray Examination.—Films of the skull revealed it to be of a dolichocephalic type with prognathic jaw. Rather marked pneumatization of the nasal accessory sinuses had occurred, the frontal sinuses extending well up into the diploe. A moderate increase in the venous channels was noted, particularly over the posterior part of the parietal region. The sella was of the flat ovoid type and showed no erosion of the clinoidal processes or floor. The teeth presented the flattened, eroded crowns seen in habitual tobacco chewers, and multiple periapical rarefactions were present. The cervical portions of the spine which were seen presented flattening of the bodies, narrowing of the disks and peripheral hypertrophic changes. The posterior articular facets showed no unusual involvement.

Lateral films of the dorsal and lumbar portions of the spine revealed flattening and broadening of the vertebral bodies with narrowing and calcification in the disk spaces. The subchondral bone plates showed sclerosis, while the spongy portions appeared osteoporotic and showed exaggerated linear striations. The normal rounded curves appeared exaggerated, and the entire spine was decreased in length.

A flat film of the pelvis and lumbar part of the spine revealed rather marked osteo-arthritic changes at both hip joints. The joint spaces were practically obliterated. Both the acetabulums and the femoral heads showed mixed cystic and sclerotic changes, with the latter predominating. The femoral necks were shortened, and the heads were flattened and deformed. A marked disproportion in development existed between the pelvis and thorax, the bony structures in the pelvis being about the size seen in a child of 12 or 14 years, whereas the thorax showed the development of a small adult; the lumbar part of the spine presented a dextroconvex curvature which, together with the previously noted flattening and decrease in vertical dimension of the bodies, permitted the lower ribs to come within 2 cm. of the crest of the ilia.

Fig. 4 (case 4).—The end stage of the deformities with markedly shortened spinal column and barrel chest.

Films of the knees revealed evidence of mild chronic atrophy of the bones with flattening of the articular condyles of both femurs and tibias. On the right some hypertrophic changes were present, and sclerosis of the subchondral bone was noted in the lateral condyles of both tibia and femur. Calcification of the medial meniscus was present on this side, and on each side the soft tissues appeared somewhat atrophic.

A typical example of well marked osteochondrodystrophy of the Morquio's disease type (fig. 1) is characterized by changes in bodily conformation resulting in the main from the shortening of the spinal column and of the necks of the femurs. The patient is moderately dwarfed, with pigeon breast, kyphosis and compensatory lordosis. Because the narrowing of the vertebral bodies includes those of the cervical region, the neck is so short as to seem absent, and the head,

although of normal size, appears large. Changes in the pelvic bones and the upper ends of the femur cause the patient to stand in a semicrouching position. The joints are restricted in motion, and the gait is stiff. Other than the skeletal defects there are no organic changes, and the mentality is normal.

Fig. 5 (case 2).—Early changes in the vertebrae. Note the rounding and pointing of the anterior aspect of the vertebral bodies.

The mode of heredity of the defect in this family as revealed by the pedigree is of peculiar interest because of the large number of affected persons. It appears to be a characteristic that is carried by the sex chromosome. It is known that some traits in addition to sex are regularly carried by the sex chromosome, and the traits whose genes are shown to be located in the sex chromosome have proved always to be recessive. With this type of heredity the mating of a normal man who has a sex-linked recessive trait to a normal woman yields all normal offspring. The sons will be completely normal but the daughters will be carriers, capable of transmitting the disease to their sons. A woman who is a carrier of a sex-linked recessive disease who marries a normal man will produce all normal daughters, while approximately one half of her sons will be affected and one half normal. The only way in which it is possible for a woman to show a sex-linked recessive character is for her father to be affected and her mother either affected or a carrier. With such rare diseases as osteochondrodystrophy, this combination is highly unlikely to occur except when related persons marry. In this family the indications are that one is dealing with this type of sex-limited inheritance carried through the female. It will be noted that the theoretical distribution of affected and unaffected persons is rather closely followed, as shown in figure 7. Only one affected male had offspring, but, fortunately for the purposes of this study, they were numerous enough practically to exclude chance as a factor to explain the complete absence of the defect in his children.

Fig. 6 (case 4).—Late changes in the pelvis, with complete fusion of both hip joints.

On the other hand, Shelling [18] stated that the heredity of osteochondrodystrophy is probably determined by a dominant mendelian factor. However, in studying the pedigrees of families with various defects of bone and cartilage, Madge Macklin [19] found that achondroplasia was inherited as a dominant characteristic in twelve families and as a recessive characteristic in five, acrocephaly as a recessive character in almost all cases, craniocleidodysostosis as a dominant characteristic in twenty-two families and as a recessive characteristic in two; craniofacial dysostosis as a dominant characteristic in three families and as a recessive characteristic in one, and exostoses as a dominant characteristic in most instances. It therefore seems likely that with osteochondrodystrophy also the type of inheritance may not be the same in all affected families.

Patients 1 and 4 suffered from a severe disabling type of arthritis. At the present time patient 1 is able to get around again and to ride a bicycle after having been practically bedridden for one year as the result of a rapidly progressive form of this disease. The occurrence of arthritis secondary to defective development of the cartilage in articulating surfaces would seem a logical sequence, but this association has not been noted frequently in reported cases. It is interesting to note also that both the mother of patient 1 and her sister, the mother of patient 2, have marked arthritic processes in the hips and ankles, although of course there are no evidences in these persons of osteochondrodystrophic changes.

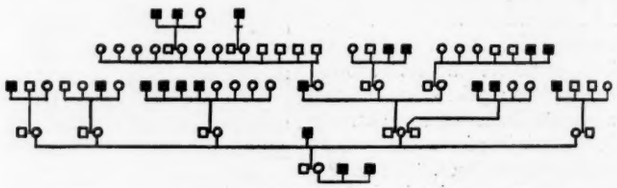

Fig. 7.—Pedigree; the hollow squares indicate normal males; the solid squares affected males and the circles females.

No form of therapy has proved in the least effective for osteochondrodystrophy. Nothing would seem likely to produce results except birth control measures on the part of those capable of transmitting the defect. One can but subscribe, with Dr. Macklin, to the creed of the Persian sage:

Better, ah better cancel from the scroll
Of Universe one luckless human soul
Than drop by drop enlarge the flood that rolls
Hoarser than anguish as the ages roll.

187 Bryant Street.

18. Shelling, David H.: Practice of Pediatrics, Hagerstown, Md., W. F. Prior Company, Inc., 1937, vol. 4, chap. 29.
19. Macklin, Madge: Role of Heredity in Disease, Medicine **14**: 1 (Feb.) 1935.

Robert Jones.—Possibly in the years to come the constant insistence by Robert Jones of the functional necessity of alignment, rather than mere end-to-end apposition, of fractured bones, will stand out as his most original and scientific contribution to his art. Robert Jones was also the first surgeon successfully to transplant the flexor muscles of the forearm into the extensors in a case of irreparable injury to the musculospiral nerve. Moreover, his untiring advocacy of tendon transplantation, bone grafting, and other conservative and physiologically restorative procedures, has led to the general adoption of such methods, the beauty as well as the usefulness of which so greatly appealed to him.—Power, Sir D'Arcy: British Masters of Medicine, Baltimore, William Wood & Co., 1936.

Clinical Notes, Suggestions and New Instruments

PLASTIC REPAIR WITH CARTILAGOPERIOSTEAL BRIDGE IN DROOPING (OR DOG) EAR

JAMES P. RIGG, M.D., AND RICHARD WALDAPFEL, M.D.
GRAND JUNCTION, COLO.

There are many operations offered for plastic repair of the protruding ear, also called lop ear, bat ear and outstanding ear (Ruttin, Alexander, Leidler, Joseph and others). Only recently MacCollum[1] described three methods of operative choice in these cases. He also gave a detailed account of the developmental anatomy.

However, much less is written about another anomaly, the so-called drooping ear. In this malformation the superior bow of the helix and the crus helicis are rolled downward away from the head, covering more or less the scaphoid fossa. As in the protruding ear, with which it is often combined, the antihelix is very small or not present.

Every operation should be so devised as to place the malformed part in its proper position, with utilization of such reconstructive measures as are necessary to do this. In the drooping ear it is necessary to lift the ear to its normal position and to reconstruct the antihelix and scaphoid fossa. Concerning these the following must be taken into consideration:

It is apparent that to keep the ear in the upright position requires much more anchorage than is required in merely attaching the ear behind as in the protruding ear. In other

Fig. 1.—Appearance of patient before operation.

words, some method must be applied to hold the ear in position so that it will not droop again. Merely attaching it above on the skin is not sufficient because of the possible subsequent sagging of the superior bow of the helix.

In correcting protruding ears, the usual procedure is to excise either the skin from behind the ear or the cartilage from the ear, or part of each. In the drooping ear we didn't consider this sufficient. We have used and modified in a suitable case a method which Demel, a Viennese surgeon, has designed for the protruding ear.

A man aged 20 (fig. 1) showed maldevelopment of both ears. The right ear was a drooping ear and the left ear a flat, slightly macrotic ear with missing cartilage in the helix. He wanted to have only the right ear repaired, because it was the most conspicuous and prevented him, as he stated, from getting a job.

The principle of the operation is that the cartilage is only partially excised, the main portion being preserved, dislocated toward the periosteum of the temporal bone and fixed under it, so that the cartilage helps to keep the auricle in the desired new position.

The operative technic is as follows (fig. 2): The line of infiltration shown in sketch 1 for local anesthesia (1 per cent procaine hydrochloride with epinephrine) gives perfect anesthesia in these cases. Sketch 2 shows the line of incision and excision above and behind the ear; the skin between the incision lines *ABC* and *ADC* is excised, the midportion *AC* being the line of insertion of the auricle. Half of this excised area lies on the posterior surface of the auricle and the other half on the mastoid region superior to it. After complete exposure of the cartilage that portion which is to be preserved for insertion of the cartilaginous subperiosteal bridge is circumscribed by a sharp incision (the portion is made large enough, for it can always be modified) and separated from the underlying skin, which is the anterior surface of the auricle (sketch 3, black area). The periosteum of the squama is exposed, blunt dissection being made first through the temporal muscle and then two incisions being made in the periosteum of the mastoid region, parallel to the line of insertion of the auricle.

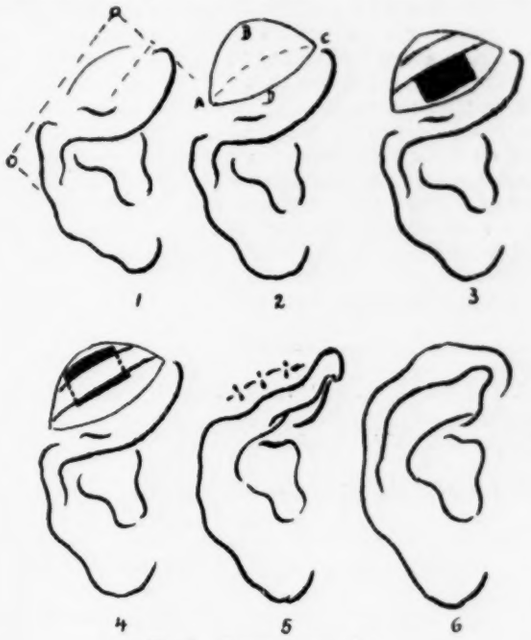

Fig. 2.—Stages of operation.

These parallel lines are from 4 to 6 mm. apart; the periosteum is elevated between them and the periosteal portion of the bridge formed. The separated cartilage of the auricle, which is the cartilaginous portion of the bridge, is turned backward, as shown in sketch 4, pushed under the proximal incision of the periosteal bridge and pulled out through the distal incision. The cartilage is temporarily held in place with forceps until the desired position is obtained; then it is sutured to the periosteum and fascia with 00 plain catgut; usually three sutures are sufficient, thus fixing the cartilagoperiosteal bridge. By this procedure the auricle is elevated to its desired position and a new antihelix is formed at the line where the cartilage is deflected backward on itself. The subcutaneous tissue is firmly approximated over

Fig. 3.—Appearance of patient after operation.

the bridge and sutured. The lines of incision are brought together (sketch 5); it may be necessary to excise a millimeter or more of the skin along one or the other border before the edges are sutured exactly. Sketch 6 shows the ear after the operation has been completed. A complicated dressing for the ear is not necessary. The typical or usual dressing used after an operation on the ear is applied.

A little trick which has proved so satisfactory in all our dressings is to place a piece of bandage from 6 to 10 inches

From the Eye, Ear, Nose and Throat Clinic.
Read before the Colorado Oto-Laryngological Society Nov. 5, 1938.

1. MacCollum, D. W.: The Lop Ear, J. A. M. A. **110:** 1427 (April 30) 1938.

long vertically over the eye on the side of the operation down to the mouth. The bandage is then started or held over the ear that has been operated on. It proceeds over the forehead and around the opposite side. Keeping always above the opposite ear and under the occipital protuberance, one makes successive tours of the head, fixing the upper, lower and central portions of the gauze over the side operated on and tying the original 6 inch strip as tightly as necessary to hold it firmly on and around the ear, forming a sort of self-retaining cap for the ear.

The described method has the following advantages:

1. It fixes the auricle firmly in the new position and prevents it from springing back into its former position.

2. It allows a new antihelix to be formed at the point where it is desired during the operation.

3. It controls the angle of fixation between the auricle and the temporal portion of the head by allowing the operator to pull on the cartilaginous flap during the operation. The scaphoid fossa is automatically pushed forward.

Figure 3 shows the results of this procedure. We have found it most efficacious in our hands and recommend it as a method to be borne in mind in this type of plastic repair of the malformed ear.

Dean Studio Building.

AN UNUSUAL CASE OF INTRA-GROUP AGGLUTINATION

PHILIP LEVINE, M.D., NEWARK, N. J., AND RUFUS E. STETSON, M.D., NEW YORK

This report deals with a rare property in the blood of a patient whose serum showed an iso-agglutinin of moderate activity, which agglutinated about 80 per cent of the bloods of her own group. In view of the fact that this agglutinin tended to disappear after an interval of several months and the fact that this agglutinin gave an equally strong reaction at 37 and 20 C., it would seem to resemble agglutinins resulting from iso-immunization following repeated transfusions. This phenomenon is readily reproduced in some species (cattle, chickens, rabbits), by several repeated transfusions, but in the case of man only two clearcut instances of such iso-immunization to cellular elements are described in the literature.[1] The case to be described differs from these in that the immune iso-agglutinin must have been stimulated by a factor other than repeated transfusion. The nature of this factor becomes evident from a summary of the case history.

REPORT OF CASE

M. S., a woman aged 25, a secundipara, was registered in the antepartum clinic of Bellevue Hospital July 12, 1937, at which time she showed some pretibial edema and a blood pressure of 130 systolic, 90 diastolic. (The expected date of delivery was in the last week of October.) Two weeks later the blood pressure was 154 systolic, 106 diastolic, and there was a faint trace of albumin in the urine. Hospitalization and rest in bed resulted in subsidence of all symptoms. The fetal heart sounds were not heard, but there were no x-ray signs of fetal death.

Labor pains and vaginal bleeding started on September 8 (the thirty-third week of the gestation), and at midnight September 9 the patient was admitted to the hospital, at which time labor pains lasting one minute occurred every five minutes. There was considerable bleeding before the membranes were ruptured, and a macerated stillborn fetus weighing only 1 pound 5 ounces (595 Gm.) was delivered. After the placenta was expelled, bleeding was finally controlled and the patient (group O) was given her first transfusion of 500 cc. of whole blood from her husband (group O). Ten minutes after she received the blood a chill developed and she complained of pains in her legs and head. About twelve hours later a piece of membrane was passed and this was followed by more bleeding. At 4 p. m. a second transfusion of 750 cc. of whole blood was given, apparently without any reactions. In view of the renewed bleeding, hysterectomy was performed, followed by a third transfusion of 800 cc. of whole blood with no reaction.

Nineteen hours after the first transfusion and eight hours after the hysterectomy the patient voided 8 ounces (240 cc.) of bloody and dusky urine. At this time tests done with a more delicate technic revealed that, although the patient and her husband—the first donor whose blood caused a reaction—were in group O, the patient's serum nevertheless agglutinated distinctly her husband's cells and, indeed, the cells of most group O donors. Subsequently the patient received six more uneventful transfusions from compatible professional donors very carefully selected by the Blood Transfusion Betterment Association.

Subsequent intensive treatment—diathermy over the kidneys, forced fluids by vein, rectum and mouth, the repeated transfusions mentioned and high hot colonic irrigations—resulted in gradual recovery of kidney function.

COMMENT

The blood was referred to us during the patient's convalescence, October 9, a month after the hysterectomy. Tests previously performed at the Donor Bureau of the Blood Transfusion Betterment Association showed that only eight of fifty group O donors did not react with the patient's serum and hence were compatible. In our series of fifty-four bloods of group O, thirteen failed to react with the patient's serum. Thus, of a total of 104 group O bloods twenty-one were compatible.

It could be readily shown that these reactions differ from those due to so-called atypical agglutinins occasionally found in the serums of normal persons. The former reactions were just as active at 37 as at 20 C., while reactions of the latter variety as a rule do not occur at 37 C. or else are considerably diminished. In other words, identical results were obtained when tests with serums of the patient were kept either at 20 or at 37 C. or were read after centrifuging and resuspending the sedimented cells.

The reactions were found to be independent of the M, N or P blood factors. Owing to the lack of suitable quantities of the blood, it was not possible to perform absorption experiments in order to supply data on the incidence of the reactions in bloods of groups A, B and AB.

Another specimen drawn two months later, December 3, still exhibited the agglutinin, which however gave far weaker reactions. Here again the reactions at 37 C. were just as intense as those at room temperature or lower. It was not possible to examine the serum of this patient until a year later, when all traces of reactions had disappeared.

In several respects this iso-agglutinin, as already mentioned, resembles the iso-agglutinins described by Landsteiner, Levine and Janes and that of Neter, namely (1) reactions within the same group equally active at room temperature and at 37 C. and (2) the temporary character of the agglutinin. In both of these cases the agglutinin was not demonstrable until an interval of several weeks had elapsed following repeated transfusions. In the present case, however, it is evident that the unusual iso-agglutinin must have been present at the time the patient was given her first transfusion with the blood of her husband, which subsequently was shown to be sensitive. Furthermore, this first transfusion was not uneventful in view of the resulting chills, pains in the legs and intense headache.

It is well established that in instances of iso-immunization in animals the iso-agglutinin serves as a reagent to detect dominant hereditary blood factors in the red blood cells and presumably also in the tissue cells. In view of the fact that this patient harbored a dead fetus for a period of several months, one may assume that the products of the disintegrating fetus were responsible not only for the toxic symptoms of the patient but also for the iso-immunization. Presumably the immunizing property in the blood and/or tissues of the fetus must have been inherited from the father. Since this dominant property was not present in the mother, specific immunization conceivably could occur.

From the Department of Laboratories, Newark Beth Israel Hospital, Newark, N. J., and the Blood Transfusion Betterment Association of New York City.

Dr. William E. Studdiford, director, and Dr. John S. Labate, resident, of the Obstetrical and Gynecological Service at Bellevue Hospital, gave the authors permission to study this case.

1. Landsteiner, Karl; Levine, Philip, and Janes, M. L.: Proc. Soc. Exper. Biol. & Med. **25**: 672 (May) 1928. Neter, Erwin: J. Immunol. **30**: 255 (March) 1936.

No data are available as to the relationship to one another of the immune iso-agglutinin in the two previously reported cases and in the present case. Judging from the frequency of positive and negative reactions, it is evident that the iso-agglutinin in this case is distinct from the other two; i. e., 20 per cent nonreacting bloods in contrast with 75 per cent in the case of Neter and 60 per cent in that of Landsteiner, Levine and Janes.

Agglutinins of this sort can rarely be investigated thoroughly because of their tendency to diminish in activity and eventually to disappear. Consequently attempts were made to produce a hetero-immune agglutinin of identical or similar specificity by repeated injections of sensitive blood into a series of rabbits. These experiments met with failure, since suitable absorption tests with such serums failed to reveal the presence of the desired agglutinin.

201 Lyons Avenue, Newark—48 East Sixty-Fourth Street, New York.

Council on Foods

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

FRANKLIN C. BING, Secretary.

KNOX GELATINE OMITTED FROM THE LIST OF ACCEPTED FOODS

It is one of the rules of the Council[1] that firms having accepted products shall submit suitable evidence for new claims before use is made of them in advertising. The Charles B. Knox Gelatine Company, Inc., Johnstown, N. Y., manufacturers of Knox Plain Sparkling Gelatine, a product which has been accepted[2] since 1931, has been aware of this requirement. Recently certain claims have been widely promulgated before the Council had an opportunity to review the evidence on which they were based. These new claims, and others which have not been so widely advertised, are discussed in the present report.

In an earlier report[3] on "The Nutritional Significance of Gelatin," there were summarized the following claims that can be recognized for gelatin:

> "In view of the available evidence the Council believes that gelatin properly made is a wholesome food, that it has special usefulness when one desires to add variety to the diet by incorporating gelatin in nutritious soups or pleasant desserts which appeal to the appetite of many persons, and that for these reasons gelatin is often a useful food for inclusion in the diet of healthy persons or of sick or convalescent patients. Gelatin appears to be well tolerated. The claim that gelatin is an aid in the digestion of milk, however, is in the opinion of the Council not established. The claim that gelatin is of value as a source of aminoacetic acid in the treatment of some of the myopathies cannot be recognized; in the light of present evidence, gelatin has no special significance as a source of amino acids in the diet. Indeed, it is notoriously deficient in certain essential amino acids."

Recent publications bearing on the properties of gelatin have not changed the status of these allowable claims.

GELATIN AND FATIGUE AND ENDURANCE

Early in 1939 there appeared a report[4] by Profs. G. B. Ray and J. R. Johnson and Miss M. M. Taylor on the "Effect of Gelatine on Muscular Fatigue." These authors at Long Island College of Medicine selected six men and four women who were trained on the ergometer "until the maximal output of work before fatigue set in was as constant as could be expected under the experimental conditions." The subjects were then given 60 Gm. of gelatin daily (three of the women received 45 Gm. and one 67.5 Gm., but because negative results were obtained with women, only the experiments on men need be considered). Knox Plain Sparkling Gelatine was taken by mixing 30 Gm. of the dry material in 8 ounces of chilled orange and lemon juice and drinking the mixture before the gelatin swelled appreciably. With the male subjects there was noted a marked increase in the total watt output, which increased gradually from day to day until apparent maximum effects were produced. The gelatin, but not the fruit juices, was then discontinued. Thereafter it was found that the total watt output gradually diminished and approached the level observed prior to the gelatin feeding. The authors concluded that men who are given adequate amounts of gelatin are invariably able to increase the amount of work produced before fatigue sets in. The results varied from 37 per cent to 240 per cent above the training level, but in the greater number of subjects the increase is said to have been more than double. The authors suggested that the action of gelatin which they observed was concerned with the creatinogenic action of its amino acids, especially aminoacetic acid, which makes up about one fourth of the weight of this protein.

The experiments of Ray and his associates cannot be considered as conclusive. They represent uncontrolled observations because no comparisons were made of the effect of feeding other proteins or other substances. The authors seem inclined to interpret their results in terms of the component amino acids of gelatin, but they did not report any observations on the effects of feeding aminoacetic acid itself. It should be obvious that observations such as those reported on six men cannot be applied to all men until experimental confirmation is available from other laboratories. There might be some basis for believing that the administration of aminoacetic acid[5] or of gelatin may result in a gain in strength or endurance of persons with asthenia of various types, but young healthy men would not be expected to exhibit such marked effects as those reported. Perhaps the chief point of criticism about the work performed in the Long Island College of Medicine is that the feeling of fatigue was the criterion for stopping work each day. It is well known that the mental factor in fatigue is enormous, and some method of controlling this factor could well have been included in the planning of the experiments. On the basis of available evidence the Council cannot recognize the claim that gelatin lessens or postpones fatigue.

In its advertising the firm has claimed that the taking of rather large quantities of Knox Gelatine increases muscular endurance, postpones fatigue, causes no disturbance in digestion and does not interfere with normal appetite. (For a true test, the firm stipulates that the gelatin should be continued daily for at least a month.) The firm was asked why these claims for Knox Gelatine were being used when they had not been accepted by the Council. The general manager of the firm replied by telegram in part as follows:

> "News stories on gelatin New York papers broke unexpectedly and was forced to run one piece copy locally to protect position against other gelatins claiming responsibility for work done on our grants."

In a further communication, the firm has written:

> "Even though this new use of Knox Gelatine is not directed to persons under medical care but is strictly a lay proposition, we would have preferred to withhold advertising it to the laiety [sic] until the Council had passed on it.
>
> "As brought out in our previous letter, competitive brands that did not have the Council's seal, and with no regard for ethics—business or otherwise—started to advertise their products for this use which forced us to either adhere strictly to the Council's rules or let competitors reap the benefit of the research that we instigated and paid for."

The actions of the Knox Gelatine Company in advertising its product with unaccepted and misleading claims may be justified by the business ethics of the concern; but in the opinion of the Council that is no justification for the spreading of unestablished propaganda to the public.

GELATIN IN THE DIET OF THE DIABETIC PERSON

The Knox Gelatine Company has published a booklet entitled "The Diabetic Diet and Knox Sparkling Gelatine." Although it is a requirement of the Council that all advertising for accepted products must be acceptable to the Council, the firm

1. Rules and Regulations of the Council on Foods of the American Medical Association, January 1939, p. 13. This publication, which is reprinted frequently, is available for the asking from the Secretary of the Council, 535 North Dearborn Street, Chicago.
2. Committee on Foods, J. A. M. A. **96**: 861 (March 14) 1931.
3. The Nutritional Significance of Gelatin, Report of the Council on Foods, J. A. M. A. **107**: 2132 (Dec. 26) 1936.
4. Ray, G. B.; Johnson, J. R., and Taylor, M. M.: Effect of Gelatine on Muscular Fatigue, Proc. Soc. Exper. Biol. & Med. **40**: 157 (Feb.) 1939.
5. It perhaps should be mentioned that the physiologists at the Long Island College of Medicine misquoted comments of Dr. Russell M. Wilder which were made in discussing a series of papers on the treatment of the myopathies. These were published in the Proceedings of the Staff Meetings of the Mayo Clinic, Oct. 3, 1934. Ray and his collaborators write: "Wilder believed his ability to play tennis increased after two weeks on a glycine diet." What Wilder and his son did was to determine the creatine content of urine after a vigorous game of tennis. Six-hour specimens of urine collected immediately after this exercise contained 21 mg. of creatine for both persons. Two weeks then intervened, during the second week each person took 6 Gm. of aminoacetic acid daily and then again played a vigorous game of tennis. Six-hour specimens of urine after this bout of exercise contained 13 and 4 mg. This is quite different from stating that the administration of aminoacetic acid increases one's "ability to play tennis."

never submitted the booklet in current use until after it had been published and the Council office had requested a copy. Knox Gelatine is referred to in this booklet as "the ideal food for the diabetic," and as a preparation which "can and should be substituted" for most protein foods. There is illustrated in this booklet a diet description by "John Doe, M.D.," which contains the direction "Use Knox Gelatine freely." The booklet includes a foreword by the firm, a page entitled "To the Reader," brief descriptions of the "Principles of the Diabetic Diet," a discussion of the caloric requirements and other general questions. There are pages devoted to Knox Gelatine in the diabetic diet, tables of the composition of foods, a list of forbidden foods, and seven daily diabetic menus "compiled by a trained dietitian" which provide a scheme for diets providing from 1,000 to 2,000 calories daily. The booklet contains also a considerable number of recipes for foods, for many of which Knox Gelatine is an ingredient.

This booklet, which could be a useful educational item, is objectionable because much of the information that it provides is outmoded or incorrect. The dietary recommendations are not in agreement with current views of the foremost writers and authorities on the subject. The menus are for the high fat, low carbohydrate type of diet. Although the booklet quotes the recognized principles that the diet for the diabetic must provide foods whose caloric value meets the daily requirements, and protein to equal that of the normal diet, the calories and protein of the menus are unusually low. Can the daily menu which provides 1,000 calories from 38 Gm. of protein, 75 Gm. of fat and 50 Gm. of carbohydrate be intended for children? Or is it intended for adults who need to lose weight? Why is the protein so low? Even the menus providing 1,600 calories, which might be a satisfactory caloric intake for some women, offer only 45 Gm. of protein. This is rather low, particularly when one realizes that some of this protein is in the form of gelatin, a notoriously deficient protein.

A detailed criticism of this booklet might require more space than the booklet itself. That a commercial firm should distribute advertising in the guise of brochures or textbooks on the management of diabetes and other diseases may be only a sign of the times, but it is an insult to the intelligence of physicians to circulate material which is poorly prepared or out of date. Yet without submitting this objectionable booklet to the Council the firm published advertisements in newspapers inviting the readers to write for a copy, and for a free sample of Knox Gelatine.

GELATIN AND PEPTIC ULCER

The Knox Gelatine Company recently requested the Council to consider the claim that gelatin is useful for persons with peptic ulcer. In support of this claim there was offered a report [6] by Drs. Charles Windwer and Milton J. Matzner of the Jewish Hospital of Brooklyn. These authors administered a high protein diet, consisting of a mixed diet with hourly feedings of gelatin between meals, to forty patients with peptic ulcer. Seven doses, each of 8 Gm. of gelatin dissolved in a small amount of water, were administered daily. It was reported that symptomatic relief was obtained in 90 per cent of the patients studied. Although recognizing that this method is not a specific, the authors assert that gelatin has a definite place in the management of peptic ulcer, especially when patients do not respond to drug therapy.

It is well known that the person with peptic ulcer has periods of relapse and of relative freedom from symptoms. The observations in the present report are wholly subjective. Further study is definitely indicated before the claim can be considered established. Certainly there is no justification for suggesting that persons with peptic ulcer obtain relief by feeding themselves gelatin between meals, as the firm has done in newspaper advertisements. The following excerpt is an example of objectionable advertising:

"GASTRIC ULCERS?

"With gastric ulcers, you must avoid irritating the inflamed area and, at the same time, get enough nourishment to keep up your strength.

"*Between meals* (hourly or at least every two hours), take half an envelope of Knox Gelatine in a cup of fruit juice, milk or water. The gelatine helps lessen pain. Because it's a food, it helps to build up strength and resistance."

6. Windwer, Charles, and Matzner, M. J.: Peptic Ulcer—The Effect of High Protein Diet on the Behavior of the Disease, Am. J. Digest. Dis. & Nutrition **5**: 743 (Jan.) 1939.

GELATIN IN THE FEEDING OF INFANTS

The Council in 1936 refused to recognize the claim that the addition of gelatin to milk is particularly advantageous in the feeding of infants. The Knox Gelatine Company in April 1939 asked for acceptance of the claim that "gelatinized" milk is better digested and utilized, based on old and new experiments. The firm refers to some experiments by Riggs and Beaty,[7] who found that the addition of 2 per cent gelatin to milk brings about a reduction of the curd tension to approximately one half. Attention was also directed to a paper by Ruth E. L. Berggren [8] on "The Effect of Gelatin on the Curd Tension of Milk." Her data show a maximal decrease of 48 per cent in curd tension, obtained with the addition of 4 per cent gelatin of high viscosity. One per cent gelatin of low viscosity produced a reduction of only 6 per cent in curd tension. In her conclusion it was stated: "The addition of gelatin (Knox) to milk caused a marked fall in the curd tension. In most cases, 2 per cent of gelatin added to milks of curd tension up to about 50 Gm. converted them to soft curd milks." There are two errors in these statements. First of all, the decrease in curd tension is not necessarily marked. Secondly, if milk with a curd tension of 50 Gm. has the curd tension diminished even 50 per cent, it is a "soft curd milk" only if one defines a soft curd milk as one having a curd tension of 30 Gm. or less.

It may be noted that neither of these reports offers any new evidence in support of the claim that "gelatinized" milk is better digested and utilized, a claim which the Council concluded was not supported by adequate evidence in 1936.

In regard to the claim that the addition of gelatin causes a reduction in the curd tension of the milk, there is evidence already cited and from other sources. For example, Kugelmass [9] has reported that gelatin causes a considerable reduction in the curd tension of milk. In the accompanying table are provided illustrative values of the curd tension, of samples of milk examined by the Secretary, as measured with a standard knife, pepsin and hydrochloric acid being used as a coagulant:

Effect of Gelatin on the Curd Tension of Milk

	Curd Tension in Grams		
	Milk I	Milk II	Milk III
1. Pasteurized milk	30	54	46
2. Boiled (5 min.) milk	18	15	14
3. Milk and gelatin	25*	18	25

* 1.5 per cent Knox Gelatine; in the other experiments, 3 per cent Knox Gelatine.

It is evident from these data that there is a reduction of curd tension when gelatin is added to milk, but there is a greater decrease in the curd tension when milk is boiled. The Council already has gone on record as stating that all milk used for the feeding of infants should be boiled. There is, therefore, no point to the claim made for adding gelatin to milk. For older persons who do not use boiled milk, there may be some justification to the claim, but "gelatinized" milk is promoted for the purpose of infant feeding.

The claim also has been advanced that the feeding to infants of "gelatinized" milk reduces the incidence of constipation, minor gastrointestinal upsets and upper respiratory infections. These claims are based on two reports by Dr. C. Loring Joslin, professor of pediatrics at the University of Maryland School of Medicine and College of Physicians and Surgeons. The first report [10] was published in January 1937. At that time the Council offered the firm, on request, a number of comments regarding the paper. These may be summarized as follows:

The claim is made that the addition of gelatin to cow's milk makes the milk more digestible for the average infant as evidenced by (*a*) the reduction of vomiting and (*b*) constipation, and (*c*) the production of a

7. Riggs, L. K., and Beaty, Annabel: The Use of Gelatine in the Routine Feeding of Infants, reported before the American Chemical Society Meeting, June 1935.

8. Berggren, Ruth E. L.: The Effect of Gelatin on the Curd Tension of Milk, J. Dairy Sc. **21**: 463 (Aug.) 1938.

9. Kugelmass, I. N.: Milk Curd—Its Mechanism and Modification, Arch. Dis. Child. **12**: 25 (Feb.) 1937.

10. Joslin, C. L.: Some Clinical Observations on Feeding Infants Whole Milk, Gelatinized Milk and Acidified Milk: A Preliminary Report, Arch. Pediat. **54**: 20 (Jan.) 1937.

better rate of gain. In the opinion of the Council, even though it is possible that gelatin is useful in vomiting, the data submitted are scarcely acceptable as evidence. Supporting data and discussion are necessary. For example, vomiting may have as its cause an infection of the upper respiratory tract. Vomiting from this cause alone will cease on recovery from the infection regardless of whether gelatin is added. Vomiting may result from swallowing of air incident to underfeeding. Such vomiting will tend to cease when sufficient food is given, whether or not it contains gelatin.

The Council questions whether constipation has any relationship to digestibility. The indigestible part of bran aids in the relief of constipation. Constipation may be caused by underfeeding, in which case any good formula will relieve it. Again a supporting discussion with data is necessary.

The point relative to the production of a better rate of gain requires a discussion of calories which is lacking. Apparently the control formulas had less energy value, the difference being in the amount of gelatin added to the experimental formulas. This isn't much, but it is from 30 to 70 calories a day, which is something. In the report of Elterich, Boyd and Neff, the energy values were kept approximately the same, and no differences were observed in the weight gain.

Dr. Joslin concludes that the addition of gelatin to milk protects against diarrhea. No evidence is presented that the figures in the table have any significance. In the cow's milk group were twenty-one babies with infection and fourteen with diarrhea. In the gelatin group were nine cases of infection and eight of diarrhea. Parenteral infection is one of the most frequent causes of diarrhea at the present time. These data without appropriate supporting discussion are far from convincing, in the opinion of the Council.

Attention is called by the investigator to the lower incidence of upper respiratory infections in the gelatin-milk group A. The claim that gelatin milk protects against pneumonia, whooping cough, chicken-pox and measles would be no more ridiculous than a claim based on this point brought to attention by Dr. Joslin.

The Council feels that the entire report shows a lack of critical observation and analysis. Only favorable portions are quoted from the literature.

In January 1939 a new report of "Further Clinical Observations on Feeding Infants Whole Milk, Gelatinized Milk and Acidified Milk" was published by Dr. Joslin.[11] One hundred and fifty infants were observed, and these were divided into three groups of fifty infants each. The first group received cow's milk; the second, milk to which gelatin had been added (the gelatin was Knox's brand), and the third group was fed acidified evaporated milk. During the period of observation of six months the infants fed cow's milk showed respiratory infections in nineteen instances and diarrhea in seven. Those fed acidified milk showed respiratory infections in twelve instances and diarrhea in nine. Of those fed "gelatinized" milk six had respiratory infections and three had diarrhea. There were five infants with diarrhea in the group fed cow's milk, three in those fed "gelatinized" milk and four in the group fed acidified milk. Other items also were listed, such as the gain in weight, incidence of vomiting, poor appetite and the like. In the summary the author stated that upper respiratory infections occurred less frequently in the group of infants fed a low curd tension milk produced by the addition of gelatin to the milk. He also concluded that the feeding of "gelatinized" milk may be helpful in cases of vomiting, diarrhea and constipation as compared to the feeding of cow's milk. In the opinion of the Council, none of these conclusions is entirely justified by the evidence.

SUMMARY

After reviewing more recent available evidence the Council reaffirms its previous decision about the allowable claims for gelatin. The claim that the eating of gelatin increases endurance or diminishes fatigue in normal persons is not acceptable. The supposed value of gelatin as a high protein food in the diet of diabetic patients cannot be recognized, although gelatin may be included advantageously in the diet of the diabetic patient. The claim that gelatin is of therapeutic value in the management of peptic ulcer is not considered to be established. Although the addition of gelatin to milk does lower the curd tension, the claim cannot be recognized that the addition of gelatin to milk intended for infant feeding is particularly desirable, for the reasons stated in the foregoing report. No claims can be recognized for the usefulness of gelatin in the prevention of vomiting, diarrhea, constipation and infection in infants on the basis of evidence presented.

Regardless of whether any one or all of the claims made by the Charles B. Knox Gelatine Company, Inc., Johnstown, N. Y., may later prove to be right or wrong, the company, in making such claims without first submitting them to the Council, has violated obligations regarding the use of the seal of the Council. For this reason, by vote of the Council, the gelatin products of this firm have been removed from the list of accepted foods.

11. Joslin, C. L.: Further Clinical Observations on Feeding Infants Whole Milk, Gelatinized Milk and Acidified Milk, Bull. School of Med. Univ. Maryland **23**: 118 (Jan.) 1939.

ACCEPTED FOODS

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED BY THE COUNCIL ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION AND WILL BE LISTED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED.

FRANKLIN C. BING, Secretary.

(1) BRUCE'S JUICES BRAND GRAPEFRUIT JUICE, UNSWEETENED
(2) BRUCE'S JUICES BRAND GRAPEFRUIT JUICE, SUGAR ADDED
(3) BRUCE'S JUICES BRAND ORANGE AND GRAPEFRUIT JUICE, SUGAR ADDED

Manufacturer.—Bruce's Juices, Inc., Tampa, Fla.

Description.—(1) Canned, unsweetened Florida grapefruit juice. (2) Canned Florida grapefruit juice containing added sugar. (3) Canned mixture of Florida orange and grapefruit juice containing added sugar.

Manufacture.—(1) and (2) Sound, tree-ripened grapefruit are washed and mechanically halved and the juice is extracted by reamers operated by hand or mechanically. The juice is strained and sugar is added if a sweetened juice is being prepared. The juice is deaerated, flash pasteurized and immediately filled into cans, which are sealed and cooled. The juice is kept under vacuum throughout the process and only stainless steel equipment is used. The empty cans are fed through a live steam bath before being introduced into the filling machine.

(3) Formula proportions of Bruce's Juices Brand Orange Juice and Bruce's Juices Brand Grapefruit Juice Unsweetened are mixed, a small amount of sugar is added and the mixture is canned as described for Bruce's Juices Brand Grapefruit Juice, Unsweetened.

Analyses (submitted by manufacturer).—

	(1)	(2)	(3)
Moisture	89.0	83.7	84.0
Total solids	11.0	16.3	16.0
Ash	0.3	0.3	0.3
Fat (ether extract)	0.1	0.1	0.1
Protein (N×6.25)	0.6	0.5	0.4
Reducing sugar as invert	5.1	6.1	6.8
Sucrose	2.4	6.7	5.8
Crude fiber	0.1	0.1	0.1
Carbohydrates other than crude fiber (by difference)	8.3	13.8	14.0
Titratable acidity as anhydrous citric acid	1.6	1.5	1.1
Vitamin C (titration)	43.7 mg. per 100 cc.	46.3 mg. per 100 cc.	59 mg. per 100 cc.
Vitamin C (titration) performed by Dr. E. M. Bailey of the Connecticut Agricultural Experiment Station at the request of the Council	35.2 mg. per 100 cc.	36.0 mg. per 100 cc.	44.2 mg. per 100 cc.

Calories.—(1) 0.37 per gram; 11 per ounce.
(2) 0.58 per gram; 15 per ounce.
(3) 0.56 per gram; 17 per ounce.

CELLU BRAND PEAR JUICE

Distributor.—Chicago Dietetic Supply House, Inc., Chicago.

Description.—Canned pear juice packed without added sugar.

Manufacture.—Fully ripened Bartlett pears are thoroughly washed to remove spray residues. Small pieces not suited for packing as "halved" pears are trimmed, chopped, preheated and pressed through cloth, and the resulting juice is run into cans. The cans are sealed and heat processed.

Analysis (submitted by distributor).—Moisture 87.6%, total solids 12.4%, ash 0.3%, fat (ether extract) 0.5%, protein (N × 6.25) 0.3%, crude fiber 0.04%, carbohydrates other than crude fiber (by difference) 11.3%, invert sugar 7.85%, sucrose 1.05%.

Calories.—0.5 per gram; 14 per ounce.

THE CASE OF ASA BRUNSON VS. MORRIS FISHBEIN

(Continued from page 59)

Tuesday, May 30, 1939—Afternoon

Dr. Asa Brunson resumed the witness stand and further testified as follows:

ON CROSS EXAMINATION (RESUMED)

Questions by Mr. Brown:

Mr. Brown:—Your Honor, we have about three or four more questions of Dr. Brunson, and then will probably turn him over to counsel.

Q.—Dr. Brunson, you originally sued in this case for $250,000, didn't you? *A.*—It was first brought for $250,000.

Q.—Then you dropped to $50,000? *A.*—That was on account of my attorney, he did that, and not me.

Q.—Who started at $250,000, you or your attorney? *A.*—What is that?

Q.—Who started at $250,000, you or your attorney? *A.*—My attorney.

Q.—And then he dropped it without talking to you about it? *A.*—Yes, he wrote—

Q.—Is any one financing this suit for you? *A.*—What?

Q.—Is any one financing this suit for you? *A.*—No.

Q.—None? No one? During all of these years you have claimed to have a remedy for the Great White Plague, for what you call the poor man's disease, and yet you have been unwilling during all of that time to make a disclosure of that remedy or make it known for the benefit of suffering humanity, is that correct? *A.*—That is correct, because I couldn't get a scientific investigation.

Q.—In other words, it had to be a conditional investigation as far as you were concerned, was it, is that true? *A.*—I wanted it investigated.

Q.—Investigated only on your terms? *A.*—What is that?

Q.—Investigated only on your terms? *A.*—And my terms were very fair.

Q.—What body could investigate it besides the American Medical Association? *A.*—Well, Rockefeller Foundation.

Q.—Did you have it examined by them, or offer it to them? *A.*—No. I wrote them and they told me if I would submit the formula to them in about two years they would tell me what the results would be.

Q.—You refused to submit the formula? *A.*—I told them I would go up and make the medicine for them, and let them try it out for ninety days, and then I would give them the formula.

Q.—What did they say to that? *A.*—They wouldn't do it.

Q.—It had to be a conditional examination then, or investigation? *A.*—I wanted a fair examination.

Q.—And you wanted to be the judge of that, didn't you? *A.*—No, sir, there was doctors that they had observing the patients that I would treat, they would be the ones.

Q.—You would not turn it over to them on their conditions? *A.*—I never would give the formula up.

Q.—Have you submitted it to any one else? *A.*—Do you mean the formula?

Q.—Yes? *A.*—No, I have not.

Q.—Did you submit a proposition to any one else? *A.*—I did to the Public Health Service, and I went further with them than I did with any one.

Q.—And you had your own conditions attached to that in submitting it, didn't you? *A.*—I first wrote to General Cummings and told him I would like to treat—

Q.—Don't tell what you told him. You did want to submit it on your own conditions? *A.*—Certainly.

Q.—You would not conform to the conditions of the Public Health Service? *A.*—I offered it.

Q.—You would not conform to the conditions of the Public Health Service? *A.*—I think it was very close to it, if you want me to tell you.

Q.—Did they submit a proposition to you? *A.*—They told me to write the American Medical Association and get an investigation by them, that they could not use an unknown formula on the patients in the hospitals of the Public Health Service.

Q.—And upshot of it is that you would not submit it to any authorized body, would you, any duly constituted body? *A.*—No, but I offered to give it to General Tappan if they would investigate it.

Q.—Upon your conditions? *A.*—(No answer).

Q.—Upon your conditions? *A.*—It was partly upon their conditions if I gave Dr. Tappan the formula.

Q.—You attached conditions to it yourself? *A.*—The condition was they would use the medicine for ninety days.

Q.—Without knowing what the formula contained? *A.*—The condition was they would use the medicine for ninety days and at the expiration of that time Dr. Tappan could have—the Surgeon General—the formula and the results he observed from the treatment of patients.

Q.—Without knowing the formula? *A.*—Dr. Tappan would have known it.

Q.—You refused to submit the formula to him in the first instance? *A.*—At the first instance I did.

Q.—Didn't they tell you they would not try it until you submitted the formula itself? *A.*—No. They told me to take it up with the American Medical Association.

Q.—Which you were unwilling to do? *A.*—There wasn't anything said about revealing the formula in the first letter I wrote them.

Q.—Did you submit it to anybody else, any other body? *A.*—No, not directly, in regard to treating—yes, I did, to the state medical society when they met here a few years ago.

Q.—They didn't take it up? *A.*—I wrote the president, sent it to him by a messenger of the Western Union, and got a receipt for the letter; told him I would appreciate it if he would appoint a committee of three to come and ascertain my theory of treatment for tuberculosis, and if he was satisfied and would make an appointment with the state sanatorium I would treat fifty or 100 patients without charge, and at the expiration of ninety days I would give him the formula to make public to the world.

Q.—They refused to do anything unless you gave them the formula? *A.*—They never said anything about the formula. They didn't even have the courtesy to reply to my letter.

Q.—How long have you been living in El Paso? *A.*—What?

Q.—How long have you been living in El Paso? *A.*—I think I have answered that a dozen times. I have been here since the 15th of January, 1924.

Q.—Where have you lived in El Paso? *A.*—I have lived in several different places.

Q.—Where are you living now? *A.*—I am living at the Cortez Hotel.

Q.—How long have you been living at the Cortez Hotel? *A.*—About two years and seven months.

Q.—What apartment do you occupy there, what space? *A.*—I have got Apartment 202, one bed room, living room, kitchenette and dinette.

Q.—Where did you live prior to that? *A.*—I lived on Pershing Drive.

Q.—And prior to that in Kern Place? *A.*—And prior to that in Kern Place, lived in two places in Kern Place.

Q.—And how long have you had your present rooms in the Caples Building? *A.*—Well, ever since I have been here. I was in the First National Bank Building four or five months and moved to the Caples Building and have been there ever since.

Q.—How many rooms do you occupy in the Caples Building? *A.*—I have three rooms.

Q.—Do you own an automobile? *A.*—Well, I do and I don't. I owe more on it than it is worth.

Q.—That is all.

ON RE-DIRECT EXAMINATION

Questions by Judge Sweeney:

***Judge Sweeney:*—I would like to get Exhibit No. 6.**

May it please the Court, this was offered by the defendant this morning and exhibited to the jury, but not read. I want to advise the jury what is in it.

***Mr. Brown:*—Judge, the back part of it, the jokes are not in evidence of course.**

***Judge Sweeney:*—No, I am not going to read the jokes, just the front page.**

***The Court:*—Very well. Proceed.**

Judge Sweeney thereupon read Exhibit D-6, as follows:

"Dr. Asa Brunson discovers Treatment for Tuberculosis Eight Years ago.

"Dr. Asa Brunson of El Paso who originated a unique and successful method for the treatment of tuberculosis, eight years

ago has become internationally famous on account of the results obtained in treating thousands of cases in all stages of the disease.

"The doctor, who has been practicing medicine for thirty years, is a graduate of the Memphis Hospital Medical College class 1899. He served as captain in the Medical Corps during the World War and for eight years has limited his practice to the treatment of tuberculosis exclusively.

"Dr. Brunson attributes his success in the treatment of tuberculosis, where other doctors have failed, to the fact that they have been constantly trying to eradicate the tubercle bacilli instead of the pus germs which he believes are entirely responsible for the bad symptoms of the disease.

"His theory of tuberculosis is that the pus germ plays a much more important part in the disease than the tubercle bacilli and he has proved conclusively that when the pus can be eliminated and the pus germs rendered inactive, patients even in advanced stages of tuberculosis recover very rapidly.

"The treatment is administered by means of inhalation and causes no irritation or reaction and the patient is not confined to a sanitarium or hospital but simply visits his suite of offices twice daily for treatment, when convenient, however, Dr. Brunson's treatment may be taken by the patient at home and at the present time the doctor is mailing medicine to patients from coast to coast and from the Canadian border to the Gulf of Mexico.

"Hundreds of tubercular patients who have taken Dr. Brunson's treatment have returned home and resumed their former occupations in all walks of life. Their letters of appreciation and recommendation flow into the office daily and it is a source of great satisfaction to the doctor to know that tubercular sufferers who once had little hope now enjoy the best of health.

"Dr. Brunson is offering to disclose his formula to the world after a ninety-day, scientific investigation by the medical association or any other scientific research foundation or organization and inasmuch as there are millions of cases of tuberculosis in the United States and the death rate is larger than from any other disease, it would seem vitally important that such an investigation be started immediately in order that those suffering from tuberculosis throughout the entire world might take immediate advantage of Dr. Brunson's successful method of treatment, especially since he offers to pay all expenses of such an investigation."

Judge Sweeney:—Now, on the same page:

"Out of Work Four Years, Spent Thousands of Dollars, Cured in Three Months.

"Roswell, New Mexico,
"December 1, 1926.

"I came to El Paso two years ago with an advanced case of tuberculosis. I had been sick for three years at that time. I took the sanitorium treatment for fourteen months, had a hypodermic every day and after this length of time, my doctor found a great deal of tuberculosis left in both lungs, and told me not to be out of bed more than three hours a day and not to walk out of the house.

"After being in idleness for over four years, and spending thousands of dollars for different treatments, I felt very discouraged. Then I decided to try the Brunson treatment.

"I took two treatments a day and at the end of three months I was cured. Then I made a trip back to New York and caught a bad cold and when I got back to El Paso my lungs were in bad shape again.

"I took the Brunson treatment again, and in three weeks my lungs were clear, and I am well and working every day.

"It is a great pity that the Brunson treatment and its wonderful results are not known far and wide over the world for many tubercular patients could regain their health and live useful lives after taking this treatment.

"Mr. Frank Ehret."

Q.—Now, Doctor, you were examined at some length by Mr. Brown with reference to your education. State whether or not you took the usual and ordinary course that was prescribed for young men studying medicine at the time when you took up the study of medicine? *A.*—I had a much higher education than the majority of men that were admitted to study medicine at that time.

Q.—You studied medicine in the Medical Hospital College? *A.*—Memphis Hospital Medical College. It is now the University of Tennessee. They recognize that school as a first class medical college.

Q.—Did you get a diploma from that college, and that college was afterwards merged into the University of Tennessee, was it? *A.*—Yes, sir.

Q.—State whether or not you are now recognized as a graduate of that institution? *A.*—I am recognized as a graduate of the University of Tennessee.

Q.—Doctor, some questions were asked here with reference to a man by the name of O'Hara, whether or not you had treated him during May and June for approximately forty-five days during the year 1938, is that a fact? *A.*—Yes, I treated him from the 9th of May until the 24th of June.

Q.—State what his condition was when he came to you? *A.*—He had a moderately advanced tuberculosis, and on account of his habits he was getting worse, as he told me, all of the time. He could not digest his food, he had difficulty in sleeping.

Q.—Did he have hemorrhages or temperature? *A.*—He had temperature the first day that he came to me. As for hemorrhages, I don't know whether he ever had a hemorrhage or not.

Q.—Did he state to you that he had? *A.*—He didn't tell me that he had when I was taking his personal history.

Q.—Had he been in any institution in El Paso? *A.*—He was in the Hendricks-Laws Sanitorium a year before.

Q.—Did he state how long he was in there? *A.*—I don't remember just exactly; four or five months though.

Q.—Did he state why he returned to you from Chicago for you to treat him? *A.*—He stated to me the reason he came, he heard me—

***Mr. Brown:*—If the Court please, we think that is purely hearsay. We did not go into those details ourselves, and we think it is objectionable, and therefore we object to it.**

***The Court:*—What are the grounds of your objection, hearsay?**

***Mr. Brown:*—We object to it. Yes, sir.**

***The Court:*—The Court sustains the exception.**

Q.—Dr. Brunson, how long did you treat him? *A.*—Forty-five days.

Q.—What was his weight when he first came to you? *A.*—His weight was 150 pounds.

Q.—What was his weight when he left? *A.*—The evening of the 24th of June he weighed 158 pounds.

Q.—What was his condition, physical condition? *A.*—Well, he looked a great deal better, but he lacked a great deal of being well.

Q.—Had he or not improved? *A.*—He had improved or else he would not have gained weight.

Q.—How was he with reference to eating and sleeping and resting? *A.*—What?

Q.—How was he with reference to eating and sleeping and resting? *A.*—Oh, after I gave him a prescription his stomach got all right, and he was sleeping as well as any one.

Q.—Dr. Brunson, the formula that you used on Mr. O'Hara, state whether or not it was the same formula that was used both prior and subsequent to the statements of the telegram from Dr. Fishbein to DeWitt Wallace? *A.*—It was the same formula.

Q.—You have treated many patients during the last twelve months or two years for tuberculosis, have you not? *A.*—I have not treated so many.

Q.—Do you know Odell Massey? *A.*—I do.

Q.—Was he a patient of yours? *A.*—He was.

Q.—When did you commence the treatment of Mr. Massey, and tell what his condition was when he first came to you?

***Mr. Brown:*—Your Honor please, now these specific instances there are a lot of collateral matters of inquiry, and we are going to object to testimony with reference to specific instances; it does not tend to throw any light upon the issues in this case, and will involve trying out of some particular cases and the facts upon which he predicates his answers.**

***Judge Sweeney:*—Now, may it please the Court, I would like to respond to that.**

***The Court:*—Very well, the Court will hear from you.**

***Judge Sweeney:*—The basis of the suit is the therapeutic value of his formula, and all of the testimony before us now is—**

***The Court:*—We haven't got the formula yet.**

***Judge Sweeney:*—No. The therapeutic value—I am speaking of the therapeutic value of any formula or any medicine, irrespective of whether or not you know what it is, can only be ascertained by trying that medicine out. Now, that is the testimony that is before us. I seek to ascertain from him patients that he has treated, the condition of those patients prior to the time that he commenced treatment, the condition of those patients when he discharged them. That is for the purpose of showing the therapeutic value of the medicine that he administered, and that it is not a dangerous fake.**

***Mr. Brown:*—Just one moment, your Honor. It appears to me this is argument based on the facts, and so forth, and is improper at this time in this court room right in the presence of the jury.**

The Court:—Gentlemen of the jury, you may retire from the court room and remain outside in the hall a few moments, subject to call.

The jury thereupon retired at 2:25 p. m., whereupon the following proceedings were had out of the hearing and presence of the jury:

The Court:—Now, gentlemen, in anticipation of not only the question here raised but as to the question of offering of any testimony by lay individuals, we will consider them both at this time and I will hear from you and then will hear from counsel for defendant.

Mr. Quaid:—Your Honor, we believe that the condition of the record at this time is that the best evidence is the use of his treatment. Now, we propose to show by these witnesses, by him, who is an expert, that is from the legal standpoint, being a physician and surgeon, that he can testify as to these patients that came to him, how sick they were, and what their condition was, and what he did for them, and then what the result was; and the best evidence under the testimony so far is the use of the medicine, and I think that is at this time very relevant to the issues in this case; the question being whether it is a dangerous fake or not. If we can show we used this on patients, human beings, and show that it was helpful, and in some cases curative, then it should be admissible on the main issue in the case, and relevant to that issue. We recognize a patient can't come in and give a conclusion of it, that he did this or he did that, but we do believe that a doctor, who is an expert witness, can testify that a patient came in to him and tell what that patient's condition was, as an expert, and then show what he did for that patient, and how that patient improved or did not improve, or what the condition was after a certain amount of treatment. Of course, we think that the patient, or any intelligent observer, could testify as to the taking of the treatment, and what the condition, what physical symptoms were, whether he had fever or not, whether he had a cough, and when the treatment ended whether they still had that cough, whether they still had that fever, or what the physical symptoms were. Of course, we recognize the ordinary observer cannot testify as a medical or legal conclusion, but we do believe that a physician and surgeon can testify to those matters, that that is the best evidence.

Mr. Reynolds:—Your Honor please, this is not the first time this very situation has arisen in connection with libel suits.

The Court:—The Court could anticipate that.

Mr. Reynolds:—It does happen to be a case, however, on which there isn't much in the books. We are citing for the Court's consideration the statement contained in Jones on Evidence, section 49, I believe it is wherein the conclusion is that, for instance in a malpractice suit—no, this was in a libel suit—the defendant was not allowed to put on evidence of this nature and allow lay witnesses to testify. Now, if a defendant cannot do it the plaintiff should not be permitted to do it.

The Court:—Just a moment. We are discussing here, and the Court wants to hear from you, with reference to two phases. The Court merely suggested that a distinction might be raised between a layman testifying, being permitted to testify, and a doctor who has treated that man. . . . The question we are first confronted with here is the doctor testifying as to his treatment of a patient. The question here suggested by counsel for defendant is that Dr. Brunson should not be permitted to testify with respect to specific cases.

Mr. Reynolds:—That is correct.

The Court:—The Court thinks possibly latitude of testifying generally is broader perhaps than undertaking to testify with reference to particular individuals.

Mr. Reynolds:—I merely undertook to discuss the wrong phase first.

The Court:—All right.

Mr. Reynolds:—With respect to specific instances, the greatest objection to such testimony in a suit of this nature is the fact that it forces the Court to try some fifteen different law suits if there are fifteen different patients involved, under circumstances wherein the defendant has had absolutely no opportunity to examine the patients before the treatment, to examine the remedy or method of treatment, or to have an examination of the patient subsequent to the treatment. There is no sort of guaranty of trustworthiness other than the fact that the plaintiff himself said the man was sick, I diagnosed it as such, I treated it as such, and now he is well. We have no way under the sun of going into that without all of these collateral possibilities. It amounts to trying a different law suit in each case. The Courts have been very, very definite in condemning an issue of that type. Had the defendant here ever had opportunity to present evidence to the contrary under all rules of evidence of course this might be an admissible line of testimony, but when we have none and we have no way in which to get it, it has the same purpose as allowing self-serving documents to go into evidence.

In Jones's Hand Book on Evidence—the section to which we refer is 149, on page 761—the statement is "Thus where slanderous words charged a physician with a want of skill, it was held inadmissible to show by way of mitigation specific instances of malpractice." That is where the defendant himself on the other side of the case attempted to introduce the same type of evidence. Then this further statement, from the previous page, 760: "But in such cases the evidence must be confined to the *general reputation* of the plaintiff, before the publication of the slander or libel, and such reputation cannot be shown by specific instances of his misconduct." We all know on the question of reputation specific instances are not admissible.

The Court:—The Court does not quite see that any of the authorities cited apply very closely to the question that is before the Court. The Court will eliminate right now, as far as that is concerned, lay testimony; the testimony of lay witnesses will not be admitted. They are individuals who might have received this treatment, there are so many things that might have entered into their condition, and so forth, that they are not qualified. The question is, you have a qualified witness on the stand here, for the purpose of admissibility of the testimony you have a qualified witness, qualified in a manner to permit him to testify as an expert. Now, he is testifying, he has testified already in this case that he has treated thousands of individuals and benefited them; that testimony was admitted without objection by counsel. The Court is not going to worry about trying several thousand cases at this time. The question before the Court, and which this Court is going to rule on, is whether he should be permitted to testify to a few specific cases. The Court may possibly permit that; if he does it will be limited to that.

Mr. Reynolds:—Now, your Honor, may I ask one thing there before we go any further, if that is to be done and specific instances are to be cited—

The Court:—You may make your argument. You may not question the Court.

Mr. Reynolds:—Well, if that is to be done, and specific instances are to be cited, the defendant wishes the Court to exercise his discretion under the new rules and allow opportunity for examination of those very patients, so that we may have some means of cross examining or rebutting the testimony; otherwise there is no way that we can reach it at all.

The Court:—The Court will perhaps undertake to protect that in a way. The Court will exercise the powers of discretion to a certain extent in certain matters with reference to evidence. As illustrating what the Court has in mind, if the defense, for instance, had an individual who had been under observation of several physicians who are qualified as physicians, who might testify with reference to their observations and examinations of the parties made at the same time perhaps, the Court thinks there is testimony already in here, without exception by counsel for defendant, much broader than any in some specific cases in which the individuals are here. This Court will say that the Court will limit the testimony here by this witness to some few individuals, specific individuals, who are within this community and who will be named by him, and limit that to a very few as far as that is concerned.

Judge Sweeney:—I didnt hear the last.

The Court:—The Court will limit it to a few, some six, seven or eight, right here in this community, that will be examined by defendant if they wish, although the Court does not see that meets the situation now, at this time. I believe it is stated in many War Risk cases that the Court may take judicial knowledge of certain tubercular or consumptive conditions and these different stages, incipient stage, different stages and advanced stage. There are conditions under which they are treated and many things that enter into it. All right, gentlemen, the Court will limit you to about six—start with five, will limit you to five.

Judge Sweeney:—Five, all right, sir.

The Court:—And that shall be testified with reference to by this doctor.

Judge Sweeney:—May I consult the witness?

[Judge Sweeney consulted the witness in regard to testimony to be introduced.]

Q.—Doctor, do you know O'Dell Massey? *A*.—I do.

Q.—You treated O'Dell Massey for tuberculosis? *A*.—I did.

Q.—State the facts with reference to his treatment, his calling on you, his condition and what his symptoms were, and how long he was under your treatment and what the result was.

Mr. Reynolds:—May we ask counsel to confine his questions to one single interrogatory in this examination.

The Court:—Yes.

Q.—Where did you make the first diagnosis of Mr. Massey? *A*.—About 17½ miles below here on what we call the North Loop Road.

Q.—What were the circumstances under which you made it? *A*.—I was called by a friend of theirs that told the father-in-law of Mr. Massey—

The Court:—No hearsay, a direct response.

Q.—You went to his house? *A*.—I went down to his home where he was living.

Q.—Did you diagnose his case there? *A*.—I made a diagnosis of pulmonary tuberculosis far advanced.

Q.—What were his symptoms at that time? *A*.—He was delirious at that time. I couldn't talk to him at all; I had to get the history from his wife.

Q.—Did you commence the treatment? *A*.—I commenced the treatment right away.

Q.—Did he respond to it or not? *A*.—He responded very rapidly.

Q.—Within how long? *A*.—In about six weeks he was able to come to the office, 17½ miles.

Q.—How long did you continue to treat him? *A*.—About five months.

Q.—Did you finally pronounce him cured or not? *A*.—I did.

Q.—What was his condition when you pronounced him cured? *A*.—Well, he looked about as well as any one; from all examinations I could make, I couldn't find anything wrong with him.

Q.—What did he do after you had pronounced him cured? *A.*—After I dismissed him?

Q.—Yes. *A.*—He continued to work, I think made the crop he was going to make that year.

Q.—Has he taken out life insurance since that time?

***The Court:*—You can't drift off into that; the Court will interpose an objection on the Court's own account, in the interest of time.**

***Judge Sweeney:*—That was for the purpose of showing he was examined by other physicians and pronounced cured.**

***The Court:*—That is hearsay.**

Q.—Do you know Mrs. Dora Rachels? *A.*—I do.

Q.—Where does Mrs. Rachels live? *A.*—At this time she is living down the valley about 5 or 6 miles.

Q.—When did you first treat her? *A.*—I first treated her with the Holderness treatment in the summer of '21 or '22, I have forgotten whether the spring of '22.

Q.—How long did you treat her? *A.*—I think for several months.

Q.—What were her symptoms? *A.*—Well, she had every symptom of advanced tuberculosis, hemorrhages and temperature and night sweats.

Q.—What was her weight? *A.*—I don't suppose she weighed over 80 pounds.

Q.—You treated her how long? *A.*—I treated her with the Holderness treatment about three months, the best I can remember.

Q.—Then what? *A.*—She returned to me the latter part of January '24, and she was able to come to the office, but she was not well, and I treated her for several months and then dismissed her as cured.

Q.—What treatment did you finally treat her with? *A.*—I used the treatment I am using every day for tuberculosis.

Q.—Is it the Holderness treatment? *A.*—No, it is my treatment.

Q.—Was Massey's treatment your treatment or Holderness's? *A.*—My treatment.

Q.—Does Mrs. Rachels live here in El Paso? *A.*—She lives about 5 miles below town at Ascarate.

Q.—How long is it since you dismissed her as cured? *A.*—Oh, I dismissed her some time in the summer of '24.

Q.—Have you contacted her recently? *A.*—Yes, I have.

Q.—What is her condition now? *A.*—She looks as well as any one does for her age and the amount of work she has to do.

Q.—Do you know Mrs. C. H. Boyce? *A.*—I do.

Q.—Where does she live? *A.*—She lives in El Paso.

Q.—What is her occupation? *A.*—I think she is a bookkeeper.

Q.—For what, for whom? *A.*—The Popular Dry Goods Company.

Q.—Did you diagnose her case when she first came to you? *A.*—I did.

Q.—When was that? *A.*—That was early in '25 or '24, a short time after I came back.

Q.—Had she been treated for anything, for tuberculosis, prior to your treatment? *A.*—She was treated by Dr. R. B. Homan—

***Mr. Reynolds:*—We object to that question and answer; there is no relevancy in this case and incompetent.**

***The Court:*—Please state your grounds.**

***Mr. Reynolds:*—The grounds are it is purely hearsay, this witness is not competent to testify to.**

***The Court:*—The Court sustains the objection on the ground of hearsay.**

Q.—How long did you treat her? *A.*—I didn't treat her but a very short time, two or three months.

Q.—Did you finally dismiss her? *A.*—What?

Q.—Did you finally dismiss her? *A.*—I did.

Q.—How long ago was that? *A.*—That was in—let's see, April or May 1924.

Q.—She is living here now? *A.*—Yes.

Q.—What is her condition, physical condition? *A.*—Perfectly well.

Q.—Do you know Mrs. J. E. Crow? *A.*—I do.

Q.—Where does she live? *A.*—She lives in El Paso.

Q.—Did you ever treat her for tuberculosis? *A.*—I did.

Q.—When did you make your diagnosis? *A.*—You say where?

Q.—When? *A.*—I have forgotten now whether in '27 or '28.

Q.—How long was she under your treatment? *A.*—She wasn't under my treatment but a very short time; I think two months or possibly a little longer.

Q.—What was her condition when you started treatment? *A.*—Well, she had moderately advanced tuberculosis.

Q.—You dismissed her in two or three months, you say? *A.*—I think less than three months I dismissed her as cured.

Q.—She resides here? *A.*—Yes.

Q.—What is her physical condition now? *A.*—Well, she is about as well as any one I know.

Q.—Ever have a recurrence of tuberculosis? *A.*—No.

Q.—Do you know John A. Lozier? *A.*—I do.

Q.—Where does he live? *A.*—He lives in El Paso.

Q.—Did you ever treat him for tuberculosis? *A.*—I did.

Q.—What were the symptoms? *A.*—What is that?

Q.—What were his symptoms? *A.*—He had tuberculosis of the throat and tuberculosis of both lungs.

Q.—How long previously had he had it, previous to your treatment? *A.*—Two or three years.

Q.—You treated him how long, Doctor? *A.*—I treated him for about two years.

Q.—What was the final result of your treatment? *A.*—His throat was cured, his lungs cleared up.

Q.—How about his lungs? *A.*—His lungs cleared up, he has been driving a taxi four or five years.

Q.—Now, these individuals that I have asked you about, Doctor, they were all treated by you under your system? *A.*—They were all treated with my treatment.

Q.—And it has been quite a number of years since you treated them? *A.*—Yes, it has been a long time.

Q.—And their physical condition is good? *A.*—They are still well.

Q.—They have not had a recurrence of their former difficulty? *A.*—They have not.

Q.—Is that the same formula you were using in May 1938? *A.*—Same formula, yes.

***Judge Sweeney:*—I would like to put in the date of the telegram, January 1938.**

***The Court:*—It is already in evidence.**

***Judge Sweeney:*—Yes, but I just wanted to connect that up.**

ON RE-CROSS EXAMINATION:

***Mr. Brown:*—I would like to ask that Mr. Reynolds be permitted to examine the witness about the specific instances and I be relieved at the present time.**

***The Court:*—All right, go ahead and examine the witness.**

Questions by Mr. Reynolds:

Q.—Dr. Brunson, how old was this patient O'Dell Massey when she first came to you—when he first came to you? *A.*—You are trying to tax my memory, I don't remember.

Q.—The approximate age? *A.*—About 30 years old.

Q.—And what diagnosis did you make at that time? *A.*—Active pulmonary tuberculosis.

Q.—How did you determine that? *A.*—I determined that by the history that his wife gave me, by stethoscope examination, and taking his temperature and pulse.

Q.—Did you take any x-rays? *A.*—No, he was too far down in the country and too poor to take them.

Q.—What type of rales did you hear in examining his chest? *A.*—I heard all kinds.

Q.—That means all kinds there are? *A.*—Yes, he had every kind you could think of.

Q.—Every type of tuberculosis you can think of? *A.*—What?

Q.—Every type of tuberculosis you can think of in the lungs? *A.*—No, I didn't say that, I said he had all different kinds of rales, there isn't but one type of tuberculosis.

Q.—Doctor, did you have a sputum examination of him made? *A.*—I didn't, it wasn't necessary.

Q.—Why wasn't it necessary? *A.*—Because any one, a newsboy, could tell he was in the last stages of tuberculosis.

Q.—From the temperature and from listening to his lungs and from his pulse? *A.*—An objective symptom.

Q.—Those are all objective symptoms, are they? *A.*—Those are objective symptoms.

Q.—You made no further examination? *A.*—It wasn't necessary.

Q.—Do you have his history in your possession? *A.*—I don't know that I have, but he had pneumonia in Houston, Texas, went to a hospital, and after he recovered from the pneumonia he had tuberculosis.

Q.—Just a minute, answer the question.

***The Court:*—Read the question. (Question read.) What is your answer to that question?**

A.—I think I have, but I haven't it here in my pocket.

Q.—Are you willing to produce it for counsel for the defendant to inspect, Doctor, in connection with this case? *A.*—Yes, I am.

Q.—And is the same true of the history of Mrs. Rachels? *A.*—Yes.

Q.—And the history of Mrs. Boyce? *A.*—Yes.

Q.—And the history of Mrs. Crow? *A.*—Yes.

Q.—And the history of Mr. Lozier? *A.*—Yes.

Q.—Now, Doctor, all of these cases you definitely diagnosed as pulmonary tuberculosis? *A.*—Absolutely.

Q.—All of them, after your treatment, you discharged as absolutely cured? *A.*—I did, as far as I could tell.

Q.—Aren't you saying today that they are cured, then? *A.*—Yes, they are cured.

Q.—When you discharged Mr. Massey as cured, did you have any sputum test made? *A.*—No, I did not.

Q.—Did you have an x-ray made? *A.*—It wasn't necessary, he was taking out old line life insurance.

Q.—Just a minute. We move to strike the answer.

***The Court:*—Counsel will please address the Court, and not address an objection simply to the witness or to the answer of the witness. The Court will say to this witness, when counsel asks a question, the witness will answer the question in as direct form as you can, you will not volunteer testimony along some line counsel hasn't asked.**

Q.—Doctor, your answer to whether or not you had x-rays made was no, is that right? *A.*—For who?

Q.—For O'Dell Massey. *A.*—I didn't have an x-ray made, but he had them made.

Q.—Did you see them? *A.*—I did.

Q.—Who made them, if you know? *A.*—I think Dr. George Turner made the pictures.

Q.—What examination did you give Mr. Massey at the time, just before you discharged him as cured? *A.*—I went over him with a stethoscope.

Q.—Is that all? *A.*—That was all that was necessary.

***Mr. Reynolds:*—I am sorry, Your Honor, I must object to this statement that is all that is necessary, because it is purely a conclusion.**

***The Court:*—The Court will say to the witness, when you answer a question, stop with that answer. Don't say it is not necessary. You may think in your own mind it is not. That is not part of the question propounded to you.**

***Witness:*—All right, I will not.**

Q.—Regarding the case of Mrs. Rachels, how old was she, as near as you can tell, when she first came to you for treatment? *A.*—I suppose she was about 40 years old in '21.

Q.—And did you make any examination of her at that time in diagnosing her condition? *A.*—No, I wasn't practicing medicine then; the doctor working for Holderness and myself made the examination.

Q.—Did you see him? *A.*—I didn't see him when he made the first examination.

Q.—Did you ever examine that woman during the course of your treatment? *A.*—I did.

Q.—After you had your own license, I suppose, is that it? *A.*—After I received a license.

Q.—And what kind of examination did you give her? *A.*—I examined her with a stethoscope, took her pulse, temperature and quizzed her about her condition.

Q.—Maybe we can shorten this up. On all of these patients, was your examination before your treatment practically the same, that is, pulse, temperature and listening to the chest? *A.*—Yes.

Q.—None of them were cases in which you had a sputum analysis or an x-ray before the treatment? *A.*—No, I didn't.

Q.—And none of them were cases in which you had an x-ray or sputum analysis at the time you discharged them, is that correct? *A.*—Well, now, I don't remember out of the five, I may have, I don't remember whether I did or not.

Q.—Who would have made them? *A.*—Well, they would have been made by the ones I sent them to, either Cathcart and Mason or Waite or Dr. Turner, but I don't think at that time that Dr. Turner was making x-ray pictures.

Q.—Well, now, do you recall whether or not you had any x-rays or sputum examinations made of Mrs. Boyce, Mrs. Crow or Mr. Lesser—Lozier, any of those three, do you recall? *A.*—No, I don't remember having them made.

Q.—Now, Doctor, have you ever performed an autopsy on a person who died with tuberculosis? *A.*—I haven't personally, but I have seen several.

Q.—Have you ever seen autopsies performed on any of your patients who died from tuberculosis? *A.*—I saw two.

Q.—Will you tell us what it is that you see in the lung in an autopsy of a person who has tuberculosis, an active tuberculosis? *A.*—You mean in the autopsy after they are dead?

Q.—Yes. *A.*—Well, in some cases you find cavitation, others you find pus in the bronchial tubes and bronchi, you can't see microscopically, you can't tell whether there are pus germs in the secretion or whether the tubercle bacilli are there.

Q.—Can you see the tubercles? *A.*—Well, if you look for them right hard, you might see them, but the two I had—can I answer this question?

Q.—Yes. *A.*—One was collapsed lungs, spontaneous collapse of both lungs, the patient died very suddenly. The other I saw was a patient I had treated and was apparently well, and died from acute pyelitis.

Q.—Could you see any evidence of tuberculosis in that last patient? *A.*—We saw pus, but I had had a sputum test made just a few days before her death, and I didn't find any tubercle bacilli at all.

Q.—Can you see tubercle bacilli on an autopsy through a microscope? *A.*—If you get some of the pus before they have been embalmed, you can find them, but after they are embalmed, you couldn't.

Q.—You spoke about this one person having collapse of both lungs. Do you know what caused that? *A.*—What caused the sudden collapse?

Q.—Yes. *A.*—It was this tubercular condition. I don't think any one has ever determined yet just what causes a sudden collapse; it is very rare.

Q.—Now, Doctor, will you explain to the jury, I don't think we have gotten this clear yet, will you explain to the jury just what a tubercle looks like? *A.*—What a tubercle looks like?

Q.—Yes. *A.*—It is round, looks like a little hickey on your face; it is round, you may see a number and may see some so small you can hardly detect them, and some so large you can see them very plainly with your eye. That is the house that the tubercle bacilli build.

Q.—Are any of those open, running? *A.*—I have never seen one, I have never seen a tubercle inflamed.

Q.—Where does pus come in connection with that? *A.*—It doesn't come in connection with that. Without the tubercle bacilli you wouldn't have tuberculosis.

Q.—Say you have a tubercle, it is a little lump, where is the pus, inside of the lump? *A.*—No, there is no pus inside.

Q.—Where is this pus you have been talking about? *A.*—The pus germs are buried down into the lung, in the lung tissue, and there is destruction of tissue, that mucus is what we usually call pus, that gets into the smaller bronchi and larger bronchial tubes, into the bronchus, and is thrown off or expelled by coughing.

Q.—If you have never seen a tubercle inflamed, and the pus germs aren't in or near that tubercle, what relation have the two? *A.*—What relation do the two have?

Q.—Yes. *A.*—They haven't any relation with the exception—can I explain this?

Q.—Certainly. *A.*—When you have irritation of the lung, caused from tubercle bacilli, it makes a good field for pus germs, and every breath we breathe we are breathing from 500 to 3,000 pus germs, a patient's resistance is lowered, they get in the fertile field from irritation of the tubercle bacilli and become active.

Q.—What does? *A.*—The pus germs become active. A pus germ has caused every symptom that is manifested in the disease and the cause of every death, where they die from tuberculosis.

Q.—Now, Doctor, what is it that causes the fertile area where the pus germs become active, is that connected with the tubercle? *A.*—No, but the irritation that is caused from the tubercle bacilli. That isn't thoroughly understood, just what damage the tubercle bacilli does; we do know that pus infection causes every symptom, decaying of the lung, destruction of the tissue, cavitation, and when you get cavitation and it opens a blood vessel, if a small one, you have a small hemorrhage, if a large one, you have a large hemorrhage.

Q.—Doctor, is the tubercle bacilli the only thing that causes these fertile fields and allows pus germs to become active in the human body? *A.*—No.

Q.—There are many such things? *A.*—You can have that from lung abscess following pneumonia or following flu pneumonia, which is not really true pneumonia.

Q.—As far as your treatment is concerned, what you are controlling is the pus germ condition itself? *A.*—The pus germ is the germ I am fighting, and I never saw under a microscope a specimen of sputum of a tubercular that the pus germs didn't

predominate, and, inasmuch as the doctors had tried everything known to medical science to cure tuberculosis, I came to the conclusion that they never had tried to eliminate the mixed infection, and that was the cause of my working and trying to find a cure for the disease.

Q.—Now, your theory of eliminating the mixed infection, by which I assume you mean pus germ infection, is through an expectoration? *A.*—Absolutely, that is my theory and I have proved that theory, because when we stop the activity of the pus germs, patients invariably get well.

Q.—That would apply, as far as your remedy is concerned, to lung abscess and conditions following pneumonia? *A.*—Bronchitis.

Q.—Asthma? *A.*—It depends on what kind of asthma.

Q.—What kind of asthma? *A.*—Bronchial asthma.

Q.—Doctor, on these two autopsies of your patients that you saw, did you see any cavities in either one of them? *A.*—No, I did not.

Q.—Did you see any fibrous tissue? *A.*—I did not.

Q.—Did you find any calcified nodules? *A.*—We weren't looking for that.

Q.—Did you see any? *A.*—I wanted to see what the cause of sudden death was with the one that had both lungs collapsed; that is all we were looking for. When we found that, we closed the patient up. The other patient—do you want me to answer?

Q.—Yes. *A.*—The other was pyelitis, that is, inflammation of the kidney. The young lady died so quickly and ran such an excessive temperature for six or seven days that I wanted to know just what the immediate cause of her death was. We found one kidney was entirely destroyed, just a shell, and was full of pus. The other kidney was very much inflamed, that caused suppression of the urine, and the highest temperatures nearly that we have are caused from that infection of the kidney.

Q.—Doctor, then you did not see any pathological study made or make any yourself of either of these patients in regard to tuberculosis? *A.*—Well, with the one I told you we held an autopsy to find out about the kidney, I had a blood culture made by Dr. George Turner, I had a sputum examination by Dr. Turner, Dr. E. J. Cummins was in consultation with me, he examined the young lady and he was just as far lost as I was. It was very hard to make a diagnosis. We got a specimen of the urine and didn't find albumin, sugar or casts; consequently we didn't know whether it was a case of pyelitis or not. With pyelitis you usually find pus in the urine.

Q.—Doctor, in that case did you find any fibrous tissue in the lungs? *A.*—Didn't look.

Q.—Did you find any calcified nodules—you didn't look for calcified nodules or cavities? *A.*—No, what we wanted to know was whether or not the kidneys were affected, and I believe Dr. Waite—

Q.—Doctor, we are getting afield, I want to bring it back to a question of tuberculosis, if you don't mind. My question is, in that particular case, you didn't make a pathological examination of the person's lungs? *A.*—After death?

Q.—Yes, of the lung? *A.*—Yes. Do you want me to tell how that was done?

Q.—I want to know what you found, if you found fibrous tissue or calcified nodules? *A.*—No, the only thing we found, she had been embalmed, Peak-Hagedon didn't know we were going to hold an autopsy and had her embalmed. We found pus when we cut in the left lung. We saw pus; that is as far as we went.

Q.—Is that a person you had discharged as cured of tuberculosis? *A.*—I did.

Q.—In that respect, you found, after death, there was still some evidence of tuberculosis? *A.*—We couldn't prove that, because we couldn't examine the secretion then in the lung. We couldn't say whether it was tuberculosis or not; tuberculosis did not kill her.

Q.—Dr. Brunson, I forgot to ask you how old was Mrs. Boyce when you first diagnosed her case? *A.*—I would have to make a guess on that.

Q.—Approximately? *A.*—Twenty-two or twenty-three.

Q.—How old was Mrs. Crow? *A.*—Mrs. Crow was about 25 or 26 years old.

Q.—And John Lozier? *A.*—I suppose that he was about 33 or 34 years old. Now, this is just from memory and I can't say that it is positive.

Q.—Doctor, will you explain to the jury the meaning of chronic fibroid pulmonary tuberculosis. *A.*—Do you want me to tell the jury?

Q.—Tell the jury what it is. *A.*—Well, it is a tuberculosis that people usually live a long time. When it becomes fibroid, that is fibrous tissue that is forming in the lung, where it has been irritated by pus germ, as much so as with the tubercle bacilli, and they will live much longer than active cases of pulmonary tuberculosis where you do not find the fibroid condition.

Q.—Then the usual case of fibroid tuberculosis, what is the age group that it covers? *A.*—I didn't understand.

Q.—What is the usual age group of cases of chronic fibroid? *A.*—You mean the age of the patients?

Q.—Yes. *A.*—You find more people past the middle span of life, say from 40 years up, but you find a fibroid condition in younger people, but not as often.

Q.—Now, the history of that kind of patient is that the person runs a temperature, has other symptoms, which you say are those of tuberculosis, for a while, then they may cease to have those symptoms entirely for a period of time after that? *A.*—I have known many people that gave a history of never running a temperature and had an advanced case of fibroid tuberculosis.

Q.—And there are cases of fibroid, chronic fibroid tuberculosis, where there are no rales you could hear with the stethoscope, aren't there, Doctor? *A.*—You can always get some inadventitious sounds in the lung, even if it is a fibroid; you can hear sounds you wouldn't hear in hell.

Q.—And it is true in those cases of chronic fibroid tuberculosis a person may, after having had a pulse that was not normal for sometime, may then again regain a normal pulse, is not that true, Doctor? *A.*—In some cases it is true. Tuberculosis is a very peculiar disease; very seldom do you find two people that manifest identically the same symptoms. It is just a disease that we, as physicians, do not understand as much about as we would like to know.

Q.—Now, Doctor, as a result of our discussion about this chronic fibroid pulmonary tuberculosis, some kind of peculiar sound in the chest that might be distinguished is the only symptom that a person might have that tuberculosis even though they had many symptoms previously. Is that right? *A.*—In many cases it is correct.

Q.—In many cases you do not hear the noise in the chest? *A.*—I never found one, a chronic case of tuberculosis that you did not find abnormal sound, regardless of how long they had it.

Q.—If you found no temperature and a normal pulse, no noise in the chest, merely by using a stethoscope you are satisfied to discharge that person as cured of tuberculosis. Is that right, Doctor? *A.*—If I have observed a patient during the time he came to me and I made my own physical examination and pronounced him to have tuberculosis and they ceased to cough, they were not running a temperature, their pulse normal, they were gaining in weight, they were eating well, sleeping well, I would dismiss them; but where persons could stay here any length of time I would ask them to come back and see me every fifteen or thirty days for re-examination to assure myself I had not done them an injustice.

Q.—Does that assure you that you had not done them an injustice when they come to your office and you examine them by use of the stethoscope, taking temperature and pulse and diagnose from those three things it is tuberculosis and then treat them and then at the end of the time their cough has apparently gone, appetite is better, gained weight here in Texas, and you take pulse and temperature and take the stethoscope and find them normal and hear no noise in the lung you discharge them, and if a person comes back a year later if he is not cured will he show symptoms that he is not cured of tuberculosis? *A.*—May I ask this? You stated people who came down here in Texas.

Q.—I do not care whether they are from here. *A.*—I want to get that straight the climate proposition.

Q.—No, whether they come here or not. I mean a patient you discharge as cured and a year later you see them again and they have normal pulse or approximately normal, no temperature and no sound in the lung, are you satisfied they are cured of tuberculosis? *A.*—Yes, that is pathognomonic. They are cured.

Q.—Doctor, I would like to ask one question. What was the name of the patient on whom you saw the autopsy who died of acute pyelitis? *A.*—Miss Ana Marie Hall.

RE-DIRECT EXAMINATION

By Mr. Sweeney:

Q.—What is the period of incubation in tuberculosis? *A.*—The period of incubation—there is not a doctor in the world can tell you. We don't know.

Q.—Is it your theory that tuberculosis is contagious? *A.*—Or infectious?

Q.—Or infectious. *A.*—I contend it is not an infectious disease because it is my belief every one has the tubercular bacilli in the system, and it is a fact you cannot contract something you already have. That is the reason we cannot determine what the time of incubation is. Now, how do you get tuberculosis? Can I answer that?

Q.—Go ahead. *A.*—I didn't want to get called down again.

The Court:—**In view of the last statement you made so that you may understand the situation, you are now being interrogated by your counsel and the question or answer has not been objected to and you may proceed to answer.**

A.—The way people contract tuberculosis, they get their resistance lowered from one of four causes, from dissipation, overwork, worry or sickness, and sickness is about 85 per cent of the cause, and when your resistance is lowered you have got the tubercular bacilli already and your resistance is lowered and it becomes active and when it becomes active and causes an irritation, breathing the number of pus germs with every breath we breathe some become active. When they do become active you have a slight consolidation in the area where the tubercular bacilli started irritation, then you have the pus infection and it is the absorption of pus that causes every symptom that is manifested in the disease, and there is no question in my mind that it has been the cause of the death of every one who died. Whenever we have pus infection any where in the body any physician will tell you it has to be eliminated before you can get well. If you have pus in your lungs you have to have that pus coming out in order to give nature opportunity to build up. If you keep it coming out as fast as it forms, your patient gets much less poison, they begin to recuperate and the scavengers of the blood, the white blood cells, destroy the poisonous germs as far as they can and that is nature trying to cure the disease. That is the cause of adhesions. You have an infection in your lung. Nature is the best doctor in the world. They form adhesions around there to prevent that poison from getting out into circulation.

RE-CROSS EXAMINATION

By Mr. Reynolds:

Q.—Dr. Brunson, from what you said, is it your theory every newborn baby contains tubercular bacilli? *A.*—If they haven't when they are newly born they soon have it. That can be proven by the tuberculin tests made at school.

Witness excused.

Mr. Quaid:—**May it please the Court, I do not believe I am as familiar with the new rules as I ought to be. There is one matter I do not know just how it should be gotten in the record, or whether it is considered in the record. There is an admission in Defendant's Second Amended Answer in paragraph 4, that we want in the record. I would like to offer it at this time.**

The Court:—**You may proceed.**

Mr. Quaid:—**Paragraph 4, of Defendant's Second Amended Answer, plaintiff offers the following language about the middle of the paragraph: "However, defendant admits the averment that a communication was addressed to him and to the American Medical Association of Chicago, Illinois, in writing advising this defendant that the plaintiff was not using the Holderness treatment but was using a medicinal formula and system of his own and that he requested an investigation with reference thereto".**

The plaintiff rests.

The jury then retired and the following proceedings were had during their absence out of their presence and hearing.

Mr. Brown:—**Your Honor, at the present time we state orally the grounds for motion, which we will reduce to writing and present to the Court. We move the Court to instruct the jury to return a verdict for the defendant for the reason, among others, first, that the plaintiff has failed to meet the burden cast upon him by the law. His evidence discloses that the communication from Dr. Fishbein to DeWitt Wallace was in response to a request for information or advice, and that it was qualifiedly privileged. Being qualifiedly privileged, no cause of action can be predicated in the sending of the telegram in the absence of proof of express malice. This record is entirely wanting in any evidence whatsoever of any malice on the part of the defendant, Dr. Fishbein, toward the plaintiff. They were not even acquainted with each other, never had met and there is no showing of any reason why Dr. Fishbein should have or did have any ill will toward the plaintiff. In the case of a privileged communication the Court cannot infer nor can the jury infer malice from the wording of the publication itself. No inference is to be drawn from the words even though they not be true, and, under the circumstances, we think that the defendant in this case is entitled to an instructed verdict and we so request at this time. Now, there are a good many authorities which deal with this question, which we think are directly in point and which we can present to the Court, if the Court so desires. At this time I will say briefly there are two authorities, one in 55 Federal (2d), and the other in 66 Federal (2d), that cover some of these issues. One of the leading cases in this case is the *Missouri Pacific v. Richmond*, found in the 73 Texas, opinion by Chief Justice Staton, who was a great justice in this state, also reported in the 11 S. W. Reporter. In that case the Court lays down the rule based on an early English decision, which, we think, has been followed in practically every state in this Union. The wording of the opinion of Justice Staton in Missouri Pacific Against Richmond is followed identical in ruling case law and the Court states in that case—I can't quote the exact verbiage—but where there is a communication from one person to another where the persons are interested in the matters of the communication or where one has a duty to perform toward the other, either public or private, that duty being either a legal or moral or social duty of perfect or imperfect obligation and the person makes the statement, the statement is at least qualifiedly privileged. The Court states where the duty is a legal, moral or social, whether a perfect or imperfect obligation, the person is protected as a result of the privilege. I do not know whether the Court has read that authority recently, but in that case the facts were succinctly stated about as follows: An officer of a railroad company had reports as to the delinquency of an employee and in consequence a circular was issued, distributed not only to the employees of that railroad company but other railroads with reference to this man's inefficiency in his work, and the Court held that communication to be a qualified privileged communication, because there was a duty to protect the public. There was a public interest as well as a private interest at stake. In the second Federal Court decision which we cite, it appeared that other persons were present and heard it, heard the remarks. The Court in that instance said that the fact that some one else heard the remarks, that was incidentally present or were present where it happened in the course of a business transaction, it would not remove it from that realm. In the case of *Ashcroft v. Hammond*, 197 New York 488, also reported in 90 Northeastern 1117, suit brought against John Hays Hammond, in that particular instance while the telegram being libeling in its nature, yet the Court said the telegram was itself entitled to qualified privilege; that the fact the message was sent by telegraph and some other telegraph operators may have seen that telegram did not remove it from the realm of qualified privilege. That would be it of this telegram; it would not remove it from that realm and deprive the defendant from the protection. We have a number of cases which we can present to the Court dealing with this question and, if the Court would care to hear from us, we would like to read at least some of the decisions. While we have not the authorities direct at this time we do have memoranda of them, and in one or two instances full typewritten copy of the report. In one case which we have in mind it states that where malice or nonmalice would be equally strong from the message, the Court cannot presume a presumption of malice and therefore will not draw a conclusion where the malice or nonmalice may be coexisting. Those authorities we can present to the Court.**

The Court:—**The Court will hear from counsel for the plaintiff.**

Mr. Quaid:—**Your Honor, the first telegram which was introduced in evidence was to DeWitt Wallace asking him about what he thought about an article on the Brunson cure. The telegram from DeWitt Wallace to Dr. Fishbein asked him what he knew about the Brunson cure for the last twelve years, I believe that is the language of it—**

Mr. Reynolds:—**No, that is not it.**

The Court:—**Mr. Quaid, is that not set forth in the amended petition and in the answer?**

Mr. Quaid:—**The twelve years which was stated was in Mrs. Bradford's wire. Also she wired and asked what about the Brunson cure for twelve years, and DeWitt Wallace repeats that telegram to defendant Fishbein, which was in 1938. Now the pleadings show that we have notified Dr. Fishbein and the American Medical Association from time to time that Dr. Brunson was not using the Holderness formula and the defendant admits that they received that notice. That is in paragraph 4, "However, defendant admits the averment that a communication was addressed to him and to the American Medical Association of Chicago, Illinois, in writing advising this defendant that the plaintiff was not using the Holderness treatment but was using a medicinal formula and system of his own and that he requested an investigation with reference thereto." All right, then, in the telegram Dr. Fishbein sent, he said, "The Brunson cure of 1921," he admits at the time he sent that telegram, his pleadings admit at the time he sent that telegram he knew that Brunson was not using the treatment of 1921, because the investigation of 1921 made by Hruby was made on the Holderness treatment and was not on the Brunson treatment, so defendant Fishbein when he sent the wire connecting Brunson with the Holderness treatment, he knew, and now admits in this pleading that he knew, that at this time—and he had received communications that we were not using that treatment on which the Hruby investigation was made and the evidence in this case shows that the Holderness treatment was used in 1921 and the first part of 1922 and Hruby made his investigation on the Holderness treatment. Now the defendant comes in and admits that he knows that Brunson was using the Brunson treatment and not using the Holderness treatment. I think that goes very strongly to the question of qualified privilege. I do not agree with counsel about the law in this state on qualified privilege. In my reading some case decided some thirty or thirty-five years ago the**

judge suggested that Texas had not been very prolific on libel cases, he suggested that they had not been settled in Court. As you read the libel cases—and I believe I have read nine tenths of those in the last twenty-five years, probably not carefully, but when I saw a point applicable to our case I have read carefully—our courts have been a little lax, it seems to me in discussing the word "privilege." Whether it is an absolute privilege or a qualified privilege you have to read the case very carefully to see what the Court is talking about. As a matter of fact, qualified privilege is like any other fact, it is based on the facts of the case and it is not a naked question of law. An absolute privilege under our decisions, as I understand the loose language used, seems to be largely a question of law. The question of qualified privilege is a mixed question of fact and law. I call the Court's attention to the record on that one fact, the submission. In other words, the jury might find that Dr. Fishbein knew at the time that he sent this telegram to DeWitt Wallace that Dr. Brunson was not using that treatment, that he was not using the Holderness treatment. There is sufficient fact to go to the jury in this case on the question of qualified privilege. Now the case that seems to make the distinction on the question of privilege probably clearer than most of our cases is the case of *Cobb* v. *Garlington*, 193 S. W. 464. This is a case by the Court of Civil Appeals, Fort Worth, opinion by Judge Buck. This suit was brought for actual and exemplary damages based on a writing made by the City National Bank of Bowie, Texas, which was alleged to be libelous. The Court discusses privileged communication and qualified privilege, and the Court holds that the plaintiff in the case of qualified privilege still has the right to require that the alleged libel itself shall be submitted to the jury in order that they may pass on the question of whether there is evidence of malice on the face of the libel. Now the case of *Dickson* v. *Lights*, 170 S. W. 834, discusses there the question of malice and says that "Malice is question of fact and may be shown by extraneous facts and circumstances, or intrinsically by the violence of language used, the circumstances attending the publication, etc." *Behee* v. *Missouri Pacific*, 9 S. W. 449 says that "(a) Matter not relevant to the occasion may be evidence on question of malice. (b) Malice usually shown by extraneous evidence. (c) Animus may be shown by republication." As to being relevant, on this occasion he was asked about twelve years back, now he goes back eighteen years, although he admits in his pleadings he knew in the meantime that Brunson either claimed he was using another formula or he was using another formula and, so far as the evidence of this case is concerned, he was using another formula. In other words, I do not think Dr. Fishbein's telegram was entirely relevant to the occasion that was requested of him. I think that is is clear that he disregarded the rights of the plaintiff and exercised an utter disregard of our rights in the matter, and, in fact, he admits in his pleadings he knew we were not using the Holderness formula. At this time he admits that. "Animus may be shown by republication." We have in here the Altheimer letter where this matter was again called to his attention and he still reiterates it is a dangerous form of practice or something to that effect. In other words, it is in the nature of a republication after it is called to his attention.

The Court:—Gentlemen, the counsel may prepare their motions in writing and file them and the Court will reserve ruling on the motion and we will proceed with the introduction of testimony in the case. The Court feels that a little light will be thrown on this case by future developments. Are you ready to proceed?

Mr. Brown:—Your Honor, it is difficult for us to proceed at this time without some ruling whether or not we can obtain that formula from Dr. Brunson.

The Court:—You may proceed just the same. You have the allegations in here. This has been analyzed and you have the result of the analysis, and that testimony may be brought in regardless of what you might have on the formula. The Court is reserving you the right to bring him back to the stand.

Mr. Harrell:—We are ready to proceed.

The jury then returned to the jury box and the following proceedings were had:

Mr. Harrell:—If the Court please, I have a deposition here of DeWitt Wallace, which I would like to read.

DEPOSITION OF DEWITT WALLACE.

The deposition of DeWitt Wallace, taken on the twenty-sixth day of April 1939, at 10 o'clock in the forenoon, before Hogarth S. Sweet, Notary Public, was then read in evidence as follows:

DIRECT EXAMINATION

By Mr. Harrell:

DeWitt Wallace stated that he lives at Mount Kisco, N. Y. He is editor of the *Reader's Digest* and was editor about January 1938. The *Reader's Digest* is a monthly magazine now in its eighteenth year of publication, reprinting material from magazines and books. It also contains original matter. Articles printed are in condensed form. A wide diversity of subjects are covered. "We try to find articles in at least twenty-five separate categories each month—sports, politics, literature, health, etc."

Q.—Are you acquainted with Mary Rose Bradford? *A.*—I've never met her but she is a close friend of Marquis James of Pleasantville, and a number of the associate editors are acquainted with her.

Q.—Do you know what she does or did on or about January 1938? *A.*—She sent us a telegram asking whether we would be interested in an article about Dr. Asa Brunson of El Paso.

Q.—Do you know if she is a journalist, writer or what? *A.*—Presumably she is a writer. Her husband, of course, has a great reputation and, no doubt, she has written herself. Personally, I am not as well acquainted as I should be with what she has written.

Q.—Now you say that Mary Rose Bradford sent you a telegram in January 1938. I'll ask you, Mr. Wallace, if this is the telegram that you received from Mary Rose Bradford? *A.*—Yes, that is a copy.

THE TELEGRAM FROM MARY ROSE BRADFORD

DeWitt Wallace, Reader's Digest, Pleasantville, N. Y. Are you interested in article about Dr. Asa Brunson of El Paso, who has been making quiet but remarkable cures in pulmonary tuberculosis with formula used in atomizer or nebulizer and sprayed into lung by inhalation? Three thousand cures in twelve years. American Medical Association refuses to investigate, but patients are flocking to El Paso to be cured within six months. Dr. Brunson has begged United States Surgeon General for hundred patients for simultaneous treatment with hundred treated in usual way with monthly examination but no go. Brunson is licensed M.D. and comes from a long line of American physicians. He may be another Pasteur and a prophet without honor. We are here for couple weeks; spent Xmas in Santa Fe. Wire me Hotel Del Norte.

Mary Rose Bradford

Q.—Now on receiving this telegram did you take any action, Mr. Wallace, regarding the suggestion in the telegram regarding writing an article about Brunson's alleged tuberculosis cure? *A.*—Yes.

Q.—What did you do? *A.*—I sent Dr. Morris Fishbein a telegram asking for his opinion about this so-called cure, quoting from the telegram sent to us by Mary Rose Bradford.

Q.—I show you, Mr. Wallace, a telegram addressed to Dr. Morris Fishbein, signed DeWitt Wallace, *Reader's Digest*, which has been marked "Defendant's Exhibit III." Is that the telegram?

A.—Yes, sir.

Mr. Harrell:—I offer it in evidence and ask to read it in evidence:

WESTERN UNION

Received at 1938 Jan 19 PM 10 25
NB577 110 NL XC-TDWS MTKISCO NY 19
Dr. Morris Fishbein
American Medical Assn., Chicago, Ill.

Please advise wire collect or air mail what you think of the following statement: "Dr. Asa Brunson of El Paso, Texas, has been making quiet but remarkable cures of pulmonary tuberculosis with formula used in atomizer or nebulizer and sprayed into lungs by inhalation. Three thousand cures in twelve years. Patients are flocking to El Paso to be cured within six months. Dr. Brunson has begged U. S. Surgeon General for hundred patients for simultaneous treatment with hundred treated in usual way with monthly examination but no go. Brunson is licensed M.D. and comes from a long line of American physicians. He may be another Pasteur and a prophet without honor."

DeWitt Wallace, Reader's Digest

Q.—Now, Mr. Wallace, did you receive any response to your telegram to Dr. Fishbein? *A.*—Yes, we received a telegram dated January 20, 1938.

Q.—Now, Mr. Wallace, I show you a telegram addressed to yourself from Morris Fishbein, which has been marked "Defendant's Exhibit IV" and ask you if that is the telegram that you received. *A.*—Yes, that is the telegram.

WESTERN UNION

PHF 4 TWS COLLECT CHICAGO, ILLINOIS, JANUARY 20, 1938
Mr. DeWitt Wallace,
Reader's Digest—
In ans your NB 577 110 NL XC—TDWS
Mt. Kisco, New York—

Brunson cure investigated by Allen Hruby, medical superintendent Chicago Municipal Tuberculosis Sanitarium. He says treatment without value as specific or cure for consumption. In my opinion it is a fake of the most dangerous kind. Treatment involves inhalation of menthol, eucalyptol and turpentine. Similar methods tested elsewhere have also proved to be failures.

Morris Fishbein.

Q.—Now, on receiving defendant's Exhibit IV from Dr. Fishbein, did you take any action or do anything in regard to printing the article suggested by Mary Rose Bradford? *A.*—I sent a telegram to Mary Rose Bradford quoting from Dr. Fishbein's telegram, indicating that we would not be interested in such an article.

Q.—Is this the telegram you have reference to, Mr. Wallace? *A.*—Yes, that is the telegram.

COPY POSTAL TELEGRAPH

Mary Rose Bradford,
Hotel Del Norte, El Paso, Texas, January 25, 1938.

Fishbein of American Medical Association wires: Brunson cure investigated 1921 by Allen Hruby, medical superintendent Chicago Municipal Tuberculosis Sanitarium. He says "Treatment without value as specific or cure for consumption. In my opinion it is a fake of the most dangerous kind." Treatment involves inhalation of menthol, eucalyptol and turpentine. Similar methods tested elsewhere have also proved to be failures.

DeWitt Wallace

Q.—Now, did you have any further or other correspondence or telegrams with Mrs. Bradford in regard to this alleged tuberculosis cure? *A.*—Yes, I believe we had a letter acknowledging my telegram from Mary Rose Bradford.

Q.—I show you, Mr. Wallace, what purports to be a letter from Mary Rose Bradford to you dated Jan. 27, 1938, which has been marked "Defendant's Exhibit VI" and ask you is that the letter that you received from Mrs. Bradford? *A.*—Yes, that is the letter.

Mr. Harrell:—I offer in evidence defendant's Exhibit VI:

The letter follows:

Hotel Paso Del Norte

Jan. 27, 1938.

Dear Mr. Wallace:

Thank you for your wire about the Brunson T. B. cure. I was interested only from the journalistic viewpoint, naturally. I turned the wire over to Dr. Brunson, as it seemed more eloquent than anything I could say.

Y'll had better follow the Achesons to New Orleans—they liked it. Our address there is 719 Toulouse St. Phone (unlisted) is Raymond 6635.

Faithfully,

Mary Rose Bradford.

Q.—Did you have any other correspondence with Mrs. Bradford regarding her suggestion that you print this article? *A.*—Not that I recall.

Q.—Now, prior to receiving the telegram from Mrs. Bradford, had you ever heard of a doctor by the name of Asa Brunson? *A.*—No, I had never heard of Dr. Brunson.

Q.—Had you ever heard of any doctor having made a remarkable discovery for the cure of tuberculosis? *A.*—No, sir. Not to my recollection.

Q.—What was your reaction, Mr. Wallace, regarding this article when you received the telegram from Mrs. Bradford? What I want to know is how you felt with her about printing such an article? *A.*—My feeling was one of complete skepticism.

Q.—What do you mean by that?

Mr. Quaid:—Just a moment. Let's see the answer. Your Honor, I am going to object to that answer as not material to anything.

The Court:—Let me see the answer.

Mr. Quaid:—It is his own reaction about a cure he had heard of, and all of that; it is immaterial and irrelevant and has no bearing on the issues in this case.

The Court:—The Court sustains the exception.

Mr. Harrell:—Note an exception, Your Honor.

The Court:—Under the new rules you don't have to do that. Under the new rules you are spared that trouble. The Court will, in explanation of the Court's ruling, why the Court overrules (sustains) it, in order we may have a clear understanding it is but a dissertation by this gentleman repeating what others may have said perhaps to him, or inferences he drew from others, and has no legal bearing on this case at all, and the Court sustains the exception, as immaterial.

The answer was not admitted or read.

Q.—Mr. Wallace, was your action in reference to the suggestion of Mrs. Bradford, that is, after you received her telegram, any different from that of any other similar suggestion regarding a scientific question? *A.*—No, none whatever.

Q.—What I want to know is did you depart from your usual course of investigation in this particular instance by making your inquiry of Dr. Fishbein? *A.*—Yes, and for this reason. We have some thirty-five people on our editorial staff, all of whom are supposed to make suggestions from time to time for original articles. In times past when they have suggested an article on some medical subject based on a newspaper item it has been an easy matter to explain our attitude to them personally. We also receive a good many unsolicited manuscripts from people of no established reputation, and we have no hesitancy in returning such manuscripts with our usual rejection slip; but, because of the personal relationship with May Rose Bradford, and because of her reputation and that of her husband, we were interested in not appearing to be arbitrary in our decision and felt it would be courteous to go to a medical authority for his opinion on her suggestion. That is the reason why in this case we sent a telegram to Dr. Fishbein.

Q.—Did you handle this matter personally, Mr. Wallace? *A.*—Yes, I did.

Q.—That is, you received Mrs. Bradford's telegram, and then you, in turn, made inquiry by wire of Dr. Fishbein, and then received his reply. Is that right? *A.*—Yes, I handled the matter personally.

Q.—Do you receive many suggestions for the publishing of medical articles in the *Reader's Digest?* *A.*—Not so many as formerly from our own staff because they have come to know our attitude about such articles, particularly in cases involving a so-called remarkable cure of some sort.

Q.—Before you made inquiry of Dr. Fishbein regarding this cure, was it or was it not your intention to print this article in the *Reader's Digest?*

Mr. Quaid:—Just a moment. Let me see that. Your Honor, I object to it because it is asking for a conclusion, and what he would do. The question is "Before you made inquiry of Dr. Fishbein regarding this cure, was it or was it not your intention to print this article in the *Reader's Digest?*" He does not answer it yes or no. He rambles off here.

The Court:—Let me see it.

Mr. Harrell:—He gives his reasons, Your Honor, and that is one of the main reasons in this case on which they predicate damages, the failure to print the article.

The Court:—It is predicated on a telegram. The Court will overrule the exception.

Mr. Quaid:—Note our exception.

A.—Actually, we had no serious intention of availing ourselves of the suggestion from Mrs. Bradford. As I said before, I was not impressed with Mrs. Bradford as an expert in this particular field, and our whole policy has been to avoid a subject of this kind. I refer, of course, to the development of an original article. We print articles, of course, about various cures. There are, of course, writers who have established reputations as writers on medical themes.

CROSS INTERROGATORIES AND ANSWERS THERETO INTRODUCED BY PLAINTIFF

The witness again identified the telegrams.

Cross Interrogatory No. 5:—State whether or not you obtained from THE A. M. A. JOURNAL, from *Hygeia* or any other publication of Dr. Fishbein's any intimation or statement with reference to Dr. Brunson, his tubercular treatment, or touching on his individual character, responsibility or reputation. Answer fully. *A.*—We have made no further investigation of the subject at all after receiving the telegram from Dr. Fishbein.

Cross Interrogatory No. 6:—State whether or not, after receiving information from Dr. Fishbein with reference to Dr. Brunson or Dr. Brunson's tubercular treatment, you formed from such information an opinion causing you to be prejudiced against Dr. Brunson. *A.*—Dr. Fishbein confirmed the feeling we already had that it was not the type of article which we cared to undertake as an original article for the *Reader's Digest.*

Cross Interrogatory No. 7:—State whether or not you had intended to publish the story to be written by Mary Rose Bradford about Dr. Brunson. *A.*—We had no such intention and, as I have already said, we wired Dr. Fishbein only as a courteous procedure in response to the suggestion from Mrs. Bradford.

Cross Interrogatory No. 8:—State why, or on whose suggestion or advice, you communicated with Dr. Fishbein. *A.*—I communicated with Dr. Fishbein wholly on my own initiative in the belief that he might have some information in his files pertaining to Dr. Brunson.

Cross Interrogatory No. 9:—State whether you were personally acquainted with Dr. Fishbein and any of the officers, agents, attorneys, or representatives of the A. M. A., stating the extent of your acquaintance and what relationship, in a business way, if any, exists between you. *A.*—In January 1938 I had never seen nor met Dr. Fishbein, nor any of his attorneys and, so far as I know, had never met any person from his office in Chicago or connected with the American Medical Association. Since that time I have met Dr. Fishbein in connection with an article or two that we were considering.

Cross Interrogatory No. 10:—It is a fact, is it not, that you intended to publish a story written by Mary Rose Bradford about Dr. Brunson and would have done so had it not been for information and representations from Dr. Fishbein. *A.*—There is no truth whatever in this statement. We were not at all impressed with the suggestion when it was first received from Mrs. Bradford.

Cross Interrogatory No. 11.—If you answer the foregoing in the negative, then state why, if you did not intend to publish such a story, did you take the matter up with Dr. Fishbein. *A.*—The matter has been touched on already once or twice. The

fact of the matter is that we wanted to "pass the buck" to some one else, and if it hadn't been Dr. Fishbein it probably would have been the Academy of Medicine in New York City.

Cross Interrogatory No. 12:—Do you rely on Dr. Fishbein in reference to any matter pertaining to doctors or medicine that you may comment on in the *Reader's Digest? A.*—We, as I have said, check our articles very carefully but generally find experts on any given subject closer at hand. Our associate editor, Henry Morton Robinson, handles most of our medical articles, and he has a wide acquaintance among the medical fraternity here in the East and usually checks medical material with authorities in New York City or at Johns Hopkins or in Philadelphia or Boston.

Cross Interrogatory No. 13:—Do you, in the *Reader's Digest,* only comment on physicians or medicine, or medical matters, which receive the approbation of Dr. Fishbein, or are you independent and give publicity to such matters, irrespective of Dr. Fishbein's opinion, that you believe will be informative or interesting to your readers and the general public? *A.*—We constantly reprint medical articles from other leading magazines, and in no case that I can recall have we questioned the validity of an article appearing in *Collier's,* or the *American Magazine,* or the *Saturday Evening Post* by questioning Dr. Fishbein.

Cross Interrogatory No. 14:—Do you depend on Dr. Fishbein and allow him to censure matters appearing in the *Reader's Digest* pertaining to medicine, physicians or health? *A.*—There has been no censure whatever, as has been made abundantly clear in the preceding testimony. This is the only case that I recall in which we have passed on a suggestion from an original article to Dr. Fishbein respecting a specific cure.

Cross Interrogatory No. 15:—Do you reject for publication any matter of general interest pertaining to doctors, medicine or medical treatment because of your fear of the Medical Association and the reaction it would have against your publication? *A.*—We pride ourselves on being a little more fearless than any other magazine published. A scrutiny of the *Reader's Digest* in past years will provide the best answer to that question, in that we have published numerous articles which have antagonized members of the medical profession and the American Medical Association.

Cross Interrogatory No. 16:—Do you fear resentment from the Medical Association in commenting on medicine, doctors or medical treatment? *A.*—Positively no.

Cross Interrogatory No. 17:—Is it not a fact that you were advised that the treatment being offered by Dr. Brunson had never been investigated by the A. M. A. or Dr. Fishbein but that his treatment was inaugurated and offered to the public long after any purported treatment or investigation thereof in 1921? Attach hereto any communication that you may have had so advising you, or the substance of any conversations that you had in reference to being notified that the treatment had not been investigated by any authority whatsoever. *A.*—I recall having received a letter later from Dr. Brunson in which he made the claim that the A. M. A. had never investigated his cure and I believe I can produce such a letter from our files; but this letter did not in any way alter our general attitude toward publishing medical articles making sensational claims of cures of diseases of this sort.

Cross Interrogatory No. 18:—Did you anticipate incurring the displeasure of Dr. Fishbein, or the A. M. A. by reason of any comment that you might have made favorable to Dr. Brunson? *A.*—I never gave the matter a thought.

Cross Interrogatory No. 19:—Attach hereto and mark for identification any communications that you may have received from any source whatsoever approving the Brunson treatment. *A.*—As I recall, Dr. Brunson did enclose a number of testimonials from certain people regarding this so-called cure, but I did not read the letters very carefully because, as I have already said, the general subject did not interest us. These letters were returned to Dr. Brunson with a courteous letter of transmittal.

Cross Interrogatory No. 20:—Had you not received a telegram from Dr. Fishbein condemning the Brunson treatment, you would then have published the Bradford story, would you not? *A.*—Positively no.

Cross Interrogatory No. 21:—If you state you would not, give your reasons, and if your mind had been made up, why the precaution of communicating with Dr. Fishbein?

***Mr. Quaid:*—You objected to that.**

***Mr. Harrell:*—I submit the question has already been asked, Your Honor, and has already been answered, the same question.**

***The Court:*—This is on cross examination. I will overrule the exception.**

A.—To try to answer this question in a different way, having already answered it several times, I might explain again that medical articles in the best magazines are fairly frequent. The only purpose of developing original articles ourselves is to supply us with material in certain categories of subject matter which enable us to give the widest possible diversification of content in each issue. There is no precedent for our having developed an original article pertaining to any sensational cure with the possible exception of an article which we printed on a preparation which covered facial blemishes. This article appeared a number of years ago and the preparation is called "Covermark." Neither before the receipt of Dr. Fishbein's or Mrs. Bradford's telegram, nor since, have we given any serious consideration to an article pertaining to a sensational cure claimed to be developed by some individual doctor. There simply is no necessity whatever for us to develop original medical articles of this caliber.

RE-DIRECT EXAMINATION

By Mr. Harrell:

Q.—You don't as a rule publish articles containing sensational claims of cures in the *Reader's Digest,* do you Mr. Wallace? *A.*—If we do, we reprint them from other leading magazines and do not originate the articles ourselves.

Q.—Well, of course, you are interested in keeping your magazine on a high plane? *A.*—Decidedly.

Q.—You spoke of having printed a medical article several years ago regarding face cream. You published that in the *Reader's Digest? A.*—Yes, we had a contest soliciting original articles—

***Mr. Quaid:*—The balance is not responsive, the yes is all right, he starts on about a contest or something that caused him to publish it, I think that is immaterial and irrelevant. When he says yes, he answers the question, that is all right, he goes on about a contest.**

***Mr. Harrell:*—He explains the circumstances after the response yes.**

***Mr. Quaid:*—It does not need any explanation.**

***The Court:*—Overrule the objection.**

***Mr. Quaid:*—Note our exception.**

A.—Yes, we had a contest soliciting original articles from people who have never written for leading magazines before and we received a total of 48,000 manuscripts. This was one of ten or twelve articles which we finally printed out of this contest, and it concerned a preparation to cover birthmarks and facial blemishes.

Q.—Well, that would be under the general heading of cosmetics? *A.*—Yes, decidedly. In that case, I went down with my wife, saw the woman in her office, saw her apply the preparation, and we employed a first-rate investigator to spend some two or three weeks further investigating those who had made use of the preparation, getting first-hand information as to the accuracy of any claims which she made for it.

***Mr. Quaid:*—After the word yes, it is all irrelevant and incompetent.**

***The Court:*—Sustain the objection.**

Q.—Did you publish Dr. Fishbein's telegram regarding Brunson's T. B. treatment to any one? *A.*—We quoted from it in our telegram to Mrs. Bradford.

Q.—Did you publish it to any one other than Mrs. Bradford? *A.*—No, certainly not, we had no occasion to refer to the matter again.

Q.—So, in so far as you know, the only persons who have knowledge of Dr. Fishbein's telegram are yourself, your secretary and Mrs. Bradford. Is that right? *A.*—Yes. I did not consider the matter important enough to discuss with any associate editors.

Q.—Well, you didn't give any publicity to what was contained in the telegram to any one? *A.*—Certainly not.

Thereupon court recessed, at 5 p. m., to reconvene at 9:30 a. m. Wednesday, May 31.

Wednesday, May 31

TESTIMONY OF DR. ALLEN JOSEPH HRUBY:
ON DIRECT EXAMINATION

Questions by Mr. Harrell:

Dr. Allen Joseph Hruby stated that he lives in Chicago. He attended the University of Illinois, 1909-1913, receiving the degree of doctor of medicine. After graduating from the University of Illinois by competitive examination he was admitted as intern to the Cook County Hospital, serving from June 1913 to March 1915. He then had one year of research at Wesley Hospital, Chicago, connected with Northwestern University, and one year as a public health school officer. Next, while still connected with the health department, he took a competitive examination for the dispensary service of the Chicago Municipal Tuberculosis Sanitarium and was appointed by civil service

examination in July 1917, serving from July 1917 to July 1918, when he had an appointment as medical superintendent of that institution. As school health officer for the city of Chicago, 1916-1917, he examined school children and made general surveys in the various rooms, grades and rooms, investigating every absentee. As dispensary physician for the Municipal Tuberculosis Sanitarium he did physical examinations of patients from 9 in the morning until 5 in the evening, with one hour off at noon, every day, half a day Saturday, for one year. The average was at least thirty or forty patients a day.

Q.—How many patients on an average were there in the Chicago Municipal Tuberculosis Sanitarium during the time you were dispensary physician, if you know? *A.*—In those years the population ran from about 700 to 800.

Q.—As medical superintendent of the Chicago Municipal Tuberculosis Sanitarium, what did you do in that capacity? Tell us in a general way what your duties were. *A.*—Work of a superintendent, supervisory, with a senior physician under me and about eight junior physicians, making the rounds once, sometimes twice, a day, holding conferences and consulting on every difficult case in that institution, and that from 1918 to 1923, five years.

Q.—Now, by holding conferences, just what do you mean, Doctor? *A.*—The discussions on the diagnosis and treatment of the individual cases, and particularly those that presented difficulties.

Q.—And for how long a time did you hold that position as superintendent of the Municipal Tuberculosis Sanitarium? *A.*—From July 1918 until about December 1922, almost to 1923; in fact, I was there as an honorary man to induct the next man into the job.

Q.—Approximately how many persons afflicted with tuberculosis were in the sanatorium during those times; that is, about the date July 1918 to 1923? *A.*—About 700 to 800, sir.

Q.—During that course of time did you attend any postmortems, Doctor? *A.*—Yes, sir.

Q.—About how many would you say? *A.*—That is pretty hard to say.

Q.—Well, can you give us an estimate of how many, a large number or small number? *A.*—Well, you see in a tuberculosis sanatorium we don't have the number of "posts" we have in a general hospital, but I would say I had at least twenty-five "posts"—fifty "posts," twenty-five to fifty.

Q.—You wouldn't know about how many? *A.*—But it is not much there, no.

Q.—Now, after you left there in 1923, that is, you left your position as superintendent of the sanatorium, then what did you do? *A.*—After I left the sanatorium I did general chest work in private practice.

Q.—What do you mean by chest work? *A.*—Not only tuberculosis but diseases of the chest, heart and lungs.

Q.—Now, that was when, between what dates? *A.*—1923 until 1931. I was not connected with any institution whatever.

Q.—Now, in 1931 were you appointed to any position with the same institution, the Municipal Tuberculosis Sanitarium? *A.*—By the mayor of the city of Chicago I was appointed in the spring of 1931 to serve as a member of the board of directors of the Chicago Municipal Tuberculosis Sanitarium.

Q.—Do you hold any other position besides being a member of the board of directors of that institution? *A.*—Yes, sir, I do.

Q.—What is that? *A.*—By civil service examination I received my appointment to the Cook County Hospital, where I am today an attending man in the tuberculosis department of that institution.

Q.—How large is the tuberculosis ward in the Cook County Hospital? *A.*—We have 350 beds there, sir.

He testified he is also on the staffs of Washington Boulevard Hospital, the Saint Anthony Hospital and medical consultant for the C. M., St. P. & P. Railroad. He also listed his membership in various medical societies or associations.

Q.—Now, Doctor, aside from your research work and experience in the Chicago Municipal Tuberculosis Sanitarium and your experiences at the Cook County Hospital, have you attended any clinics or postmortems having to do with tuberculosis anywhere else? *A.*—From 1932 to date, almost every week, I attend what we call at the Cook County Hospital the pathology conferences, held, until his death, by Professor Jaffé, and since his death by Professor Schiller. In those conferences we have viewed from four to five dead bodies each week since 1932.

Q.—Those persons died of what diseases? *A.*—Of all general diseases, surgical, medical, tuberculosis and everything.

Q.—Have you attended any foreign clinics, Doctor? *A.*—Yes, sir. In 1932 I studied with Professor Tice the proposition of vaccination in children against tuberculosis, and Dr. Calmette, at the Pasteur Institute, where we developed a culture from that laboratory, by sending another physician to study one year and bring the culture across the ocean, and where we are continuing vaccination of newborn infants for prevention of tuberculosis.

Q.—That was the Pasteur Institute in Paris? *A.*—Yes, sir, Paris, France.

Q.—Who is Professor Tice? *A.*—Professor Tice is the president of the board of directors of the Chicago Municipal Tuberculosis Sanitarium, and I am his secretary and a member of the board as well.

Q.—Have you made any other studies in other countries than in the United States on tuberculosis? *A.*—No, sir, just that I have attended the international conferences at The Hague, Netherlands, in 1932.

Q.—Did that have reference to tuberculosis? *A.*—Yes, sir.

Q.—Doctor, I show you part 6 of page 5 of the Chicago *Herald and Examiner* for Sunday, Sept. 4, 1921, and call your attention to an article headed "Dr. Hruby calls tuberculosis cure a fake of most dangerous kind," and I will ask you if you have seen that before? *A.*—I did, sir.

Q.—Is that an article that was written after you had been to El Paso and investigated the Brunson-Holderness remedy?

Mr. Quaid:—**I want to object to that. First, the Holderness remedy is not in issue in this case. The telegram of Dr. Fishbein refers to the Brunson cure of 1921, and this is not in issue in this case, what he may have found or said about the Holderness cure at that time.**

The Court:—**That could be true, unless it is connected up by counsel.**

Mr. Harrell:—**We have set this out in our answer; I think we attach a copy in our answer. Of course, it wasn't in newspaper form but typewritten form; it was taken from the newspaper article.**

The Court:—**The newspaper feature hasn't anything to do with its admissibility unless you connect it up.**

Mr. Harrell:—**We will connect it up.**

The Court:—**How do you expect to connect it up?**

Mr. Harrell:—**I expect to connect it up by the testimony of Dr. Fishbein, that he obtained his information from this report, part of the information which he used in the telegram to DeWitt Wallace.**

The Court:—**The report is referred to in the telegram of January 1938. The Court will permit, in view of that fact, inquiry into many features in this case, various and sundry damages, good faith, and so forth. Overrule the objection with the assurance of counsel that it will be connected up, that report to which reference is made.**

A.—Yes, sir.

Q.—Now, Doctor, I notice this article, at the heading, says by Allen J. Hruby, M.D. I will ask you if you personally wrote this article? *A.*—I wrote the reports of the patients and investigations here and submitted that report, from which that article was written.

Mr. Quaid:—**We further object then the article wasn't written by him.**

The Court:—**Gentlemen, you have got a charge in here that some one's reputation has been injured maliciously; this telegram seems to be pertinent. Counsel has stated, and the Court relies on the assurance of counsel that counsel will connect it up, that he saw this article and read this article. In connection with that further investigation he made, he refers to the report of Dr. Hruby, which is mentioned in the telegram which is the basis of your action.**

Mr. Quaid:—**We would like to make the further objection that the newspaper article is not the report of Dr. Hruby.**

The Court:—**The Court overrules the objection.**

Mr. Quaid:—**We except.**

Q.—Did you make an investigation of the Brunson-Holderness treatment for tuberculosis? *A.* Holderness-Brunson, yes.

Q.—When? *A.*—Between sometime in July and August 1921.

Q.—Where did you conduct that investigation? *A.*—At the Holderness-Brunson Clinic and in the homes of patients.

Q.—Now, Doctor, will you tell us in your own words just what you did in conducting that investigation?

Mr. Quaid:—**If the Court please, I do not want to be objecting all along. I would like to have it understand my objection goes to all this testimony.**

The Court:—**This is a different question. The Court will call your attention to the fact that in examination, in direct, witness Brunson, the plaintiff of this suit, was asked questions and inquiry elicited as to Dr. Hruby coming to El Paso and making some character of investigation. Overruled. The Court will say it is not necessary to note the exceptions. Under the rule, if you make an exception, if the ruling is adverse to you the rule provides you have an exception.**

A.—Examining patients physically, taking histories first and trying to find out what laboratory work had been done. After

I completed the history and examination and got reports on laboratory work I was able to do it myself. I did that at the clinic and at the homes.

Q.—Tell us where was the first place you went to after coming to El Paso. *A.*—The first place I went to was the Holderness-Brunson Clinic.

Q.—Whom did you meet there? *A.*—Dr. Holderness, I believe.

Q.—Where was that clinic located, if you recall? *A.*—I do not recall.

Q.—After arriving at the clinic what did you do? *A.*—I introduced myself to Dr. Holderness, stated that I was a physician from Chicago, connected with the Chicago Municipal Tuberculosis Sanitarium, and that we, in Chicago, were very much interested in the cure, if he would be kind enough to show me the methods of treatment and what the treatment consisted of and the cures he claimed he had in the papers, or copies of the papers that were coming up to our papers in Chicago.

Q.—Did you meet Dr. Brunson? *A.*—I think I did.

Q.—Did you examine any patients at the clinic, Brunson-Holderness Clinic? *A.*—I did, sir.

Q.—How many did you examine there? *A.*—About a half a dozen in round numbers.

Q.—How long did you remain at that clinic? *A.*—I think a good part of the morning.

Q.—Where did you go from the clinic? *A.*—Probably to lunch and then, after lunch, started my rounds to the home addresses that were given to me by the clinic for me to examine and investigate.

Q.—Do you recall what patients, that is, outside patients you examined? *A.*—Yes.

Q.—Will you name them please? *A.*—Could I refer to my notes?

Q.—Yes, you can refer to your notes but you cannot read from the notes. You can refresh your memory. Now, Doctor, before referring to your notes just tell us what those notes are. *A.*—The notes are the original notes that were actually taken in the clinic and at the bedside; they are getting yellow with age, so hard to read I just recopied them so they would be more plain in evidence.

Q.—Those you hold in the right hand are the original notes? *A.*—The originai notes taken here in El Paso eighteen years ago.

Q.—Go ahead and name the patients. *A.*—Griffin, McLean, McLeod—

Q.—Give us the full names if you have them. *A.*—I have not. McLeod, that is Mrs. McLeod, Mr. Martin, Mrs. Rachels.

Q.—We will now take them one at a time. Let us take Griffin. *A.*—May I take a few moments to read this?

Q.—Yes. *A.*—Yes, sir.

Q.—Now tell us what you did in examining Mr. Griffin, what you found. *A.*—Took a history and did a complete physical examination.

Q.—Describe what you did. *A.*—In the history he was a man aged 40, he had been sick since he was the age of 33 and had asthmatic attacks since childhood. He had influenza-like exacerbation once or twice a year.

Q.—What do you mean by exacerbation? *A.*—That means he was going along all right, not feeling too well, but every spring and fall he would have an attack of influenza. Then he finally heard he had tuberculosis prior to the time he came to the Holderness-Brunson Clinic. He blamed his contraction of tuberculosis on being in contact at the same desk with three tuberculous men, and that was what he thought caused his tuberculosis, this contact with three tuberculous men working at the same desk. I believe that desk was a desk in a newspaper firm in San Francisco. Then he said that the last time he was sick was about for two months and would not let up until he got very bad and then he went to the Holderness-Brunson Clinic and he stated that he took one treatment and after that immediately got better. He was up in three days and about in one week of treatment and the nurse found his pulse and temperature normal. On my visit to him I had taken his temperature and found it normal. I found his pulse to be 88 and his blood pressure, however, very low. It measured at that time 98 systolic and 62 diastolic. Now, he was a middle aged man, about 5 feet 5 inches tall. He was very thin and emaciated, pallor, cyanotic lips, wide palpebral fissures, and what we call a tuberculous stare.

Q.—What do you mean by palpebral fissures? *A.*—That is due to the atrophy of the palpebral muscles that controls our wink or our winks. That becomes atrophied in long chronic cases.

Q.—Doctor, when you use those terms, will you explain them. Neither the jurors nor we are medical men. *A.*—It is the wasting of the muscles in tuberculosis around the eyes and causing a widening of the palpebral fissure and the side most involved will give the greatest width. In this case it was on the left side, the left palpebral fissure. He was of brunet complexion, large brown eyes and the muscles of his neck stood out prominently and there was a wasting of his neck and he was very short of breath, with blue lips, and he coughed considerably and the cough was very productive. He was throwing it out of him, not only what I saw when I was examining it but what he told me. He talked jerkily, he was all out of breath and that made me suspect he might have fluid even before I examined the chest. When you have fluid in the chest your patient will talk jerkily. He had rales, sentinels of moisture in his chest on both sides and very active tuberculous pathology. He had dulness over both upper lobes denoting an old fibrotic tuberculosis in these parts. I made the diagnosis of an old chronic fibroid pulmonary tuberculosis without any laboratory notes from the clinic or without an x-ray and that this old fibroid pulmonary tuberculosis of the asthmatic type was of very long standing before he came to this clinic. Now, the mental tendency of the man was typical of tuberculosis, a very hopeful psychology, and he said he had most excellent results from his treatment, but that was his subjective statement to me as how fine he felt, but on examination I found very active pulmonary tuberculosis and I was surprised that I did not see the first cure.

Q.—Where was he at the time you conducted this examination? *A.*—This was at his home, I believe.

Q.—Now, Doctor, will you take the next patient you saw—first, who was she or he? *A.*—Mr. McLain.

Q.—Who was Mr. McLain? *A.*—He was a patient of the Holderness-Brunson Clinic and I saw him, I believe, at his home also.

Q.—Will you tell us what you did on examination of Mr. McLain? *A.*—Mr. McLain first gave us the history.

Q.—First give us the history if you want to and tell us of the examination. *A.*—In taking his history Mr. McLain was 40 years of age, and he too had been sick for some years, just like the previous case, forty or more and all of long standing illness before they presented themselves for treatment. He was diagnosed as bronchitis, had frequent and protracted colds, pain in his chest and was spitting blood and he lost a lot of weight. The temperature at the time of my examination was 99.5, about a degree higher than normal, pulse 110, rather rapid, the blood pressure 110 systolic and 70 diastolic. Dark complexion, about 5 feet 6 inches tall, very thin, cadaverous, very emaciated like a case of pulmonary tuberculosis far advanced. He was extremely nervous and he had a positive sputum. That report was given me by the Holderness-Brunson Clinic and it was still positive when I examined him. He had moist rales in both lungs, that is, bubbling, like the frying of potatoes on a frying pan, bubbling all over his chest, with dulness all over but mostly in the apices and all this denoting activity and this after twenty-five treatments, and he was still running a temperature as high as 100 degrees. I made a diagnosis of acute exacerbation of a chronic fibroid ulcerative pulmonary tuberculosis. You will ask how I could make that without an x-ray plate. By physical examination; but mainly there had been a fracture of the continuity of the tissues of the lung that caused that hemorrhage. You cannot have a hemorrhage without a fracture of the tissues. That was caused evidently by cavitation in the lung. His mental condition—he thought he must do something for his paper, so running this big story.

Q.—Was he a newspaper reporter also? *A.*—Yes, sir.

Q.—Who is the third patient you examined? *A.*—Mrs. McLeod. I do not know they were in this sequence.

Q.—Where was she when you examined her? *A.*—In her home.

Q.—When you say in their homes you mean in their homes here in El Paso? *A.*—Yes, sir.

Q.—Will you tell us what history you got from Mrs. McLeod and then relate your examination? *A.*—Mrs. McLeod was a woman aged 30. She was fair complected, blue eyes, but very thin and emaciated and when I saw her she was confined to bed. Claims to have been sick for a long time before she saw the clinic of Holderness-Brunson. She was sick for four years, and I think that is one of the youngest cases I examined. Most of them ranged from 35 to 60 years of age, and that is when we get a certain type of pulmonary tuberculosis.

Q.—How old was Mrs. McLeod? *A.*—Thirty. Last April she began the Holderness treatment and had taken it for two months and one week when I saw her. The treatments first increased her sputum but she now coughs less and expectorates lightly. She told me this. This was not the report of the clinic. Her last three sputum examinations were negative. I asked the clinic how they examined their sputum. They reported just the ordinary smear and Ziehl-Nielsen stain, but just by the ordinary smear and not by any concentration cultures or guinea pig inoculations. She refused to be examined by me. She refused to be examined by me or even have her temperature taken by me, so I have no physical examination to report in this case but only what I saw and that was that she was still too weak and too sick to be up.

Q.—What was the name of the next patient you examined? *A.*—Mrs. Dunn.

Q.—Where was Mrs. Dunn when you examined her? *A.*—At home.

Q.—Here in El Paso, is that right? *A.*—Yes.

Q.—All right, tell us about Mrs. Dunn. *A.*—She was a woman aged 40 years, and she too was sick for a long time, for five years, and she was taking treatment from the Holderness-Brunson Clinic for seven weeks. Her sickness started with hemorrhage and when a sickness starts with hemorrhage we should always consider it tuberculosis unless we can definitely prove that it is not so. I found her temperature to be normal and she said that her sputum disappeared and was negative for three weeks, but not by any report from the clinic or clinical report from that laboratory—just by her statement. She had been up and about and working as a housewife. Slender, tall woman with a hoarse voice, husky voice, which is characteristic in tuberculosis and that huskiness in the voice may be either due to paresis or weakening of the vocal cords or may be due to an ulceration of those cords. She, however, had no complaint of pain in her throat and when we have ulceration in the throat the pain is terrific, so much so they cannot swallow water, so I figured it not a tuberculous ulceration of the throat or epiglottis or thyroid cartilage but of extreme weakness. She was a tall woman. No examination allowed, however, but my impression with the meager things that were given me was that she had a chronic fibroid tuberculosis ulcerative and again ulcerative because of the hemorrhage at the onset.

Q.—What was the next patient you examined? *A.*—I called on several on my list, Mrs. Cannon, Mrs. Jerrigan, Mrs. Cannon, not at home, Mrs. Jerrigan, not at home, and I made an attempt to get there again but I could not find them. Mrs. Dora Rachels was not at home but I made a second call there.

Q.—Did you see Mrs. Rachels? *A.*—Yes, sir.

Q.—Did you get Mrs. Rachels' history and examine her? *A.*—Yes.

Q.—All right, tell us about Mrs. Rachels. *A.*—Mrs. Rachels was a woman age again of 40; her onset of her illness was again by hemorrhage. Her findings were very meager. Now this is eighteen years ago and I state here "She presented dry sibilant rales in both apices." Now, what do I mean by dry sibilant rales? They are caused by a sticky mucus in the very fine tubes of the lung and when the patient breathes it is like a whistle, it is like a reed in a tube, it whistles, and they were not—or they were very meager too. Findings were not marked but those were the findings of my physical examination without the aid, again, I will say of x-ray, blood work and sputum work, but because of these few rales I found in the apices of her lungs and because of the hemorrhage that she said she had I made a diagnosis of a chronic fibroid pulmonary tuberculosis and I said "Should be suspected." This is on the notes of eighteen years ago—should be suspected—and also having cavities and that was all I could do—suspect them—suspect that pulmonary area tissue was fractured because I had no way to prove it without an x-ray. The mental condition of this patient was, "This Dr. Brunson is a wonderful man, makes you feel good whether you do or not."

Q.—Describe the appearance of Mrs. Rachels. *A.*—I do not think I have that with me.

Q.—Did you examine any other patients? *A.*—A Mr. Martin.

Q.—Tell us about Mr. Martin. By the way, first, do you recall the circumstances under which you went out to see Mr. Martin? *A.*—No, I do not think I do.

Q.—Do you know whether or not Dr. Brunson drove you out to Mr. Martin's home? *A.*—That I am not sure of, as I look back over the years, he may have.

Q.—Go ahead and tell us about Mr. Martin. *A.*—Mr. Martin was 49 years of age when I examined him. He was sick for ten years and in bed fourteen months. He was getting serum treatments but gave them up because he was running a temperature at that time of 103 to 104. He took about forty treatments by the Holderness-Brunson method and the temperature returned to normal and pulse normal and was up and about and gaining in weight, but the physical examination of his chest revealed an active case of pulmonary tuberculosis when I saw him. He had moist rales all over the right side and particularly in the base and in the left upper lobe but had no hemorrhages and gave no history of hemorrhages. Because of the duration of the time of his illness I made a diagnosis without x-ray and no sputum reported to me or clinical report of a chronic fibroid pulmonary tuberculosis in the far advanced stage.

Q.—What was your conclusion of that? *A.*—That that case was still active and far from cured.

Q.—Have you any other patients, Doctor, that you examined? *A.*—Not patients. I went to discuss the treatment at some of the sanatoriums.

Q.—All right, tell us about what sanatoriums you went to here? *A.*—I went to the Hendricks-Laws Sanitarium, where they had at that time a capacity of about ninety-five patients, situated on the northeast side of the city, and I interviewed the house physician, and he claimed that the medical society—

Mr. Quaid:—**Your Honor, I believe the interviews with the house physician would be inadmissible. Any patients he himself saw, under the ruling of the Court, would have a right to have him testify about.**

A.—I am not going to discuss any patients at the sanatorium.

The Court:—**Just a moment. The Court sustains the exception; any statement that was made to him by some doctor, house physician, that portion the Court sustains exception to.**

Q.—You can't tell anything, any conversation you had, Doctor. *A.*—Well, that is what it will be.

Q.—Tell us what you observed there, what you did? *A.*—I just discussed the treatment, and I would have to discuss what he told me, and the way he discussed it with me. Of course, it was an up to date, modern institution.

Q.—Did you examine any patients there? *A.*—No, because it did not concern the Holderness-Brunson treatment.

Q.—Did you go anywhere else? *A.*—Homan Sanitarium.

Q.—The Homan Sanitarium? *A.*—And that would be about the same thing.

Q.—And you did not examine any patients at the Homan Sanitarium? *A.*—No, I did not. I just discussed the treatment with them. I wanted to see what the local physicians thought of the treatment.

Q.—Now, what was your conclusion regarding these six patients that you examined, with reference to whether or not they were still afflicted with tuberculosis? *A.*—There were seven patients.

Q.—Seven patients? *A.*—Two I called on were not at home. And I visited two sanatoriums. My conclusions were these: that every case I saw, as I stated, ranged from 35 to 60 years of age, one younger, one at 30, but all sick for a long time before they came to the Holderness-Brunson Clinic, all sick for years. As you have noticed, the diagnoses were chronic fibroid pulmonary tuberculosis, all in the far advanced stages and active. And in some of those, and only those that presented hemorrhages, did I make a diagnosis of chronic fibroid ulcerative pulmonary tuberculosis. The conclusion was this too: they were sick for many years. Chronic fibroid pulmonary tuberculosis is known to do that in our clinical experience; the patients do not die suddenly unless some accident, some pathologic accident, as an acute pneumonic process complicating the chronic condition, or we have a terminal meningitis, or a spontaneous pneumothorax where it kills suddenly. But without these pathologic accidents the patient lives on, lives on, lives on, and can live from the time of his childhood and to the age, and I have seen it so, of 90. And in all of that time the clinical course will be one of apparent healing, a quietude of his illness, or quiescence, and acute exacerbations that will appear as colds, ordinary colds or influenzal attacks, or pneumonic attacks, and often misconstrued by the physician and not diagnosed. So that with these improvements they were thought to be cures. They were not so! It was only that their symptoms subsided, and, as I said, the course is like the waves of the sea, up and down, over a period of years, one year, two years, ten years, yes, and forty years. And when that symptom complex is down, was that a cure? That symptom could be like normal for six, eight or ten months, and then again activity, and then again a wave. But when we examined the patients we found clinical activity of pulmonary tuberculosis and not a cure.

Q.—Who gave you this list of patients to be examined? *A.*—Somebody at the clinic; I don't know whether it was a clerk or Dr. Holderness or Dr. Brunson, but I got it.

Q.—For what purpose did you examine these patients, that is for what determination? *A.*—Could I extend on that a little bit?

Q.—Yes. *A.*—I came down here to find out about a cure of tuberculosis. With all of the publicity in the papers I was sent down here by my superior officer, who was very anxious to be first on the ground with a cure in Chicago. And he sent me to come down here to find out how it is used, and what it is, and whether they have cures, but I did not find anything.

Q.—Were these patients given to you as being cured patients? *A.*—I asked for their cured patients. I wanted to see how the treatment was given and asked them to give me only cured patients to examine.

Q.—Doctor, is there a cure for tuberculosis? *A.*—Yes, sir.

Q.—Will you tell us what it is? *A.*—Rest.

Q.—Anything else? *A.*—And rest.

Q.—Tell us what you mean by rest? *A.*—A General rest! When a case is active and acute, and running temperature, and is sick, or even without that if he has a lot of physical findings, and particularly subject to hemorrhages because of cavitation in his lung, then rest in bed. There is general rest of mind and body, but rest in bed, the temperature recedes, the pulse gets slower, and the lungs do not have to work so hard if you have your patient resting generally in bed. But the more modern treatment with rest has been by collapsing a diseased lung, or lungs. In other words, when you break a leg the doctor doesn't give you medicine for a broken leg. He rests it, and he rests it with a cast, a splint, a splint with casts or what not. When the lung is sick we put that lung in a cast, we splint it, but not with plaster of paris or steel or wood. We splint it with air. We splint it by paresis of the muscles, and we splint it by removing the ribs. But rest is a cure for tuberculosis, and a cure without drugs, just like the fractured leg.

Q.—That is termed collapse therapy? *A.*—Collapse therapy is the term for it in general. There are many procedures to splint a lung, but in general they are called collapse therapy.

Q.—After that lung has been collapsed is the lung active? *A.*—Yes, sir.

Q.—Or is it just resting? *A.*—If we splint it by air it will be just so active as we please it to be. We can put the splint of air around it and hold it down to about 90 per cent of its original activity, to 80 per cent, to 70 per cent, to 50 per cent, but never much more than that. In the modern treatment with air we do not crush the lung down to the mediastinum—that means central root of the chest—but we keep it on the hypotensive side and give our lung at least 40 to 50 per cent activity; but that is enough rest to afford a cure. If we do it by other methods of course we have not such voluntary control of the amount of rest.

Q.—Now, Doctor, how about a bacteriologic cure? *A.*—A bacteriologic cure is impossible. You can't get a bacteriologic cure. Once you have Bacillus tuberculosis in your body it will be there for the rest of your born days. It may be closed even in a tombstone—a tombstone of the healing of tuberculosis—and that tombstone is a calcified gland and is actually a stone; and yet that stone harbors within itself Bacillus tuberculosis so that the bacteriologic cure of pulmonary tuberculosis is not.

Q.—Doctor, does every person have tuberculosis bacilli? *A.*—No, sir.

Q.—Will you tell us, Doctor, how you classify the progress of tuberculosis, that is a patient under treatment? *A.*—Yes. We classify a patient under treatment. He comes to our institution; he has an active, a sick case of pulmonary tuberculosis. We put him to bed to rest, and he has temperature and has clinical symptoms that he complains of on the day of admission, but within a week or two they will disappear on bed rest. We will then classify him as an improving case. Then if his clinical symptoms are absent for two months and his sputum is positive or negative—it does not matter—but for two months he has been without clinical symptoms, without complaint; we call that a quiescent case. The next step up is the improved case. Now, a quiescent case. If those clinical symptoms and his sickness have been much improved, and practically negative for three months—but this time his sputum must be clean—we call him an apparently arrested case. If the same holds true for six months we call him an arrested case; and if he has been without symptoms or signs or x-ray findings, and the sputum negative for two years, we still do not call him cured; we call him apparently cured after two years. Now, that gradation of classification of the tuberculous individual under the treatment is a classification of the National Tuberculosis Association.

Q.—Doctor, is it or is it not a fact that it is much easier to determine that a T. B. victim is not cured than it is to determine that the victim is cured? *A.*—It is a very difficult thing to determine whether a T. B. victim is cured; it is much easier to determine that he is not cured.

Q.—Why? *A.*—Because when the individual with T. B. that once has had a storm in his chest and in his whole physical anatomy, and to see that storm die down and then to determine when it is absolutely out, or there is still a smoldering fire in his body, is a mighty difficult thing; but to find he has activity, sick, with the fire going full blast, it is so much easier. In other words, it is easier to see a fire than to see a smoldering ash under a dampened heap.

Q.—Doctor, you are familiar with the treatment administered by Drs. Holderness and Brunson, is that right? *A.*—Yes, sir.

Q.—And you were familiar with the nature of that treatment? *A.*—Yes, sir.

Q.—Why is the Brunson-Holderness treatment dangerous?

***The Court:*—A little bit louder; the Court can hardly hear you.**

Q.—I say, is the Brunson-Holderness method of treatment dangerous? *A.*—First, I came here and I received no formula of the medication, and without knowing a formula for a medication it cannot be recognized as a formula. For myself, Hruby is my name, and if I had not been recognized by my name I would not be here today. So without formula there is no recognition. Secondly, the treatment had not been established by the medical societies of the country, or even here in the local community, had not been recognized by the National Tuberculosis Association at that time, nor by the state medical society or tuberculosis association at that time. So unrecognized and not established. Now, dangerous, indirectly, to the patients in that he was wasting his time on an unrecognized and not established treatment, valuable time to have had with established and recognized treatment, valuable time to prevent a spread of his disease. Indirectly! Directly, dangerous in that the treatment consisted of inhalation, at the time I was here with an atomizer—but he was already contemplating forceful methods of putting in the oil. To handicap a diseased part of the body with anything foreign to cope with is adding stress and strain to those organs. Now, thirdly, ambulatory treatment of chronic fibroid and ulcerative cases of pulmonary tuberculosis—cases in the main in their far advanced stages—and I am sure more positive sputums than I could detect here—dangerous to the home and the community and the state and, yes, to the country, because tuberculosis is a communicable disease and these chronic fibroids are the spillers of that infection; and that is what makes tuberculosis go on and on and on; and in established treatment we recognize that these chronic fibroid cases must be isolated until their sputum is clean of the germ of consumption.

Q.—What do you mean by ambulatory treatment? *A.*—Ambulatory treatment is a treatment so that the patient is not confined in any institution but is allowed to be up and about and around.

Q.—Doctor, why did you call the Holderness-Brunson treatment a fake? *A.*—I don't know that that is a direct quotation, sir. I pointed out the dangers and made my reports, and I sent them in.

Q.—I think there was something said about your terming the treatment a dangerous fake. Explain that, please. *A.*—Yes. I termed it a danger, and of course that may be admitted to the definition of fake.

Q.—All right, now, explain why? *A.*—Because it is dangerous. It is not recognized, and it is not an established treatment.

Q.—Is that for the same reasons that you have just related here? *A.*—Yes, sir.

Q.—I think that is all.

ON CROSS EXAMINATION

Questions by Judge Sweeney:

Q.—Doctor, you came here in July 1921 was it? *A.*—July or August. I don't know just the date, but it was somewhere between June and September.

Q.—How long were you in El Paso on that visit, Doctor? *A.*—I think three or four days.

Q.—Three or four days? How many visits did you make to the clinic? *A.*—One, the first morning.

Q.—That was the first morning you were here? *A.*—Yes, sir.

Q.—You never returned after that? *A.*—I don't believe so.

Q.—Now, the names of the individuals, these six individuals that you gave, from whom did you receive those names, Doctor? *A.*—At the clinic.

Q.—From whom, do you know who gave them to you? *A.*—I don't know whether it was a clerk or Dr. Brunson or Dr. Holderness.

Q.—Now, your memory at that time would be infinitely better than it would now, would it not, Doctor? Your memory and your statements at that time would be clearer? *A.*—At the time, yes.

Q.—Yes, than they would be at this time? *A.*—Yes, sir.

Q.—Now, in the statement in the paper that has been admitted by the Court you state: "First of all, I wish to thank Mr. Griffin and Mr. McLean for the assistance given me during my investigation. Through their courtesy I was afforded every opportunity to obtain the names and addresses of some of the patients who, it was claimed, had been cured by this treatment." Now, according to this statement you obtained the names from Mr. Griffin and Mr. McLean. Now, that is probably a fact, is it not, Doctor? *A.*—No. By introduction, you see. If it was not for Mr. McLean and Mr. Griffin I would never have been here, and it was by their introduction to the clinic that I was able to receive the names.

Q.—You did not receive the names from them? *A.*—I don't remember that I did. I certainly would have had to have the permission, and I did consult and meet with the doctors at their clinic before I did anything, and it was with their permission and consent.

Q.—Then you examined these patients at the clinic or at their homes? *A.*—Both places.

Q.—Both places? *A.*—Yes, sir. I did not take the names and addresses of those that I examined at the clinic because I wasn't so much interested in the patients or clinic either. I wanted to see cures; I wanted to see the cure and the method of cure.

Q.—You wanted to see those who had been cured there? *A.*—Yes, that was it.

Q.—You were not interested in the patients taking the cure? *A.*—Because I couldn't treat them; they were Drs. Brunson's and Holderness's patients. I didn't have any interest in their practice. I wanted to see cured patients, and how it was done.

Q.—You were not interested in the patients who were taking the cure at that time? *A.*—No.

Q.—Now, you say that most of the patients that you visited claimed their temperature and pulse were normal, sputum negative since they had begun the treatment at the clinic, is that correct? *A.*—By their own report, and in one or two instances by the report of the laboratory of the Brunson-Holderness Clinic.

Q.—Some stated that they had temperature and pulse, and explained this was perhaps due to the fact they had not taken the treatment long enough? *A.*—Yes.

Q.—Those are correct statements, are they? *A.*—Yes.

Q.—Now, you state that "Realizing that I would not be able to make much headway in my personal talks with the patients in their homes, through the kindness of Messrs. Griffin and McLean I was introduced to and permitted to talk with the patients at the clinic"? *A.*—Yes, they introduced me to the clinic, you see, and Dr. Holderness was there, and he showed me the technic.

Q.—Dr. Holderness or Dr. Brunson? *A.*—Dr. Holderness I believe it was.

Q.—You were here, you say, about five days at that time? *A.*—It is hard for me to recollect that.

Q.—I forgot your statement. *A.*—Three or four or five days, something like that; I don't know.

Q.—In the examination of the patients that you made you made them, those examinations, under the impression that those patients were cured patients? *A.*—Yes. I was looking for cured patients, yes, sir.

Q.—Did you examine or see the administration of the medicine to any of them, Doctor? *A.*—Yes, sir, at the clinic the first morning I was here in El Paso.

Q.—That was by an atomizer? *A.*—Yes, sir.

Q.—Your present form of administering to tuberculars, I believe you call it, the rest cure and fresh air? *A.*—Rest, sir, for tuberculous individuals rest and fresh air.

Q.—Fresh air and rest? *A.*—But the most important thing is rest, general and local.

Q.—When was the fresh air and rest treatment first tried by the doctors? *A.*—In Germany; the first sanatoriums were originated in Germany.

Q.—That was by Dr. Brehmer? *A.*—Brehmer and Dettweiler.

Q.—Now, as a matter of fact in 1845 Dr. Bodington was the first man— *A.*—There is always a dispute in history, sir.

Q.—Then twenty years after Brehmer Dr. Bodington was driven out of the practice of medicine by the medical fraternity by reason of his theory of the fresh air and rest theory? *A.*—Yes, sir.

Q.—Then Dr. Brehmer started it in Germany twenty years afterward and it then became general through Trudeau? *A.*—1884.

Q.—In 1870? *A.*—1884, at Saranac Lake.

Q.—In the Adirondacks? *A.*—In the Adirondacks.

Q.—Now, since that time the medical fraternity has administered treatment for tubercular patients by giving them the rest cure and the fresh air cure, that is a fact? *A.*—Yes, sir.

Q.—They have no specific for tuberculosis? *A.*—No, sir.

Q.—Now, Doctor— *A.*—No specific medication.

Q.—Medicine is an inexact science, is it not; it is not an exact science? *A.*—There is no such a thing, sir, as an inexact science. Inexactness means that medicine had been the practice of the art of medicine, but as the centuries roll out becomes a more exact art.

Q.—As a matter of fact it is now inexact by reason of the fact it is constantly changing, it is not an exact science, isn't that a fact? *A.*—No, because we still have lots to find out about it. A science is an exact thing, and it is always that way.

Q.—Science is always exact? *A.*—Yes, sir.

Q.—So medicine is not necessarily a science? *A.*—Not yet, sir, but it is a more exact art than it was a few decades ago.

Q.—It is moving along to still higher heights by reason of experimentation? *A.*—Yes, sir.

Q.—Now, when you treat your patients, or when a patient comes to you, you stated on direct examination that that patient was put to bed, and what is done then, Doctor, when you put the patient to bed for rest? *A.*—All right. A patient comes in to the sanatorium, and of course we put him to bed, and then that patient gets the most grilling examination that this more exact art of the practice of medicine can give today, his urine, his stool, his stomach, his blood, his everything, is gone over and he is studied in what we call the admission department, and then—

Q.—Excuse me just a moment now. How long does it take to do that, Doctor, to give him that thorough examination? *A.*—It all depends on the case. Some patients will graduate, as we will say, from the admission department to the institution proper, but when he goes into the institution proper he has his ticket for treatment.

Q.—Just a moment. When he goes in first. *A.*—Yes.

Q.—How long does it take to get his ticket, as an ordinary case? *A.*—As I say, it depends on the case. Just as quickly as he is diagnosed thoroughly with all of his complications and associated conditions about him, then he goes to conference. He does not go as a patient.

Q.—Just a moment. You have not yet answered my question, Doctor. How long does it take to give him this physical examination that you speak of? *A.*—Let's say the average of a week.

Q.—Then he gets what you call his ticket? *A.*—Yes.

Q.—Then he goes to what department? *A.*—After a conference—this ticket is not given until the history of the case is surveyed, not by one physician, or a group, we call that clinical conference, and the treatment is determined on. Then he is turned over to a certain department of that sanatorium or that institution for the treatment that had been advised by the conference.

Q.—That consultation just takes a day or two or three days, or a short time, I presume, does it not? *A.*—It is about a week on the average, but the conference only takes a morning.

Q.—Then he goes into what? *A.*—Into the institution.

Q.—Into the institution? *A.*—Yes, sir.

Q.—And into bed? *A.*—Yes, sir.

Q.—Under a certain treatment? *A.*—Yes, sir.

Q.—Then how long do you keep them in bed, Doctor? *A.*—That is very, very variable.

Q.—Yes, I know that is. *A.*—We keep them until the symptoms of toxemia and symptoms of destruction of tissue, and symptoms of the reflex action of the poison that affects the mind and nervous system are all subdued.

Q.—That on the average patient takes how long? *A.*—That cannot be given.

Q.—Approximately? *A.*—There are so many different types of tuberculosis I can't give that.

Q.—With all your vast experience taught you with reference to the length of time it takes to eliminate all of these destructive poisons from the system and reduce their temperature, and build up their system so that they can stand and so that nature will commence to assert itself? *A.*—Every individual is an individual, by himself. There is no comparison of the human individual, and there is no more protean disease than pulmonary tuberculosis, or tuberculosis anywhere in the body. So that that cannot be answered.

Q.—It cannot be answered? *A.*—No, sir.

Q.—It will vary perhaps from a month—do you turn them out within a month? *A.*—No.

Q.—Two months? *A.*—Sometimes.

Q.—Frequently? *A.*—We usually like to keep them there—we have a basis for that, because the disease is so protean, because individuals are so different, humanity is so different, every human being is different, one from another, we like to strike an average. So we like to have them in the institution a minimum of three months, but better would it be to have a minimum of six months to even a year. But because of the overcrowding of institutions and sanatoriums in the metropolises of our country we have to get beds for the poor sick and get them on their feet just as soon as we can; but we do not let them go; we still keep them under observation in our extramural clinics.

Q.—You keep some patients for as much as a year? *A.*—No, when they are in the extramural clinics they are there for the rest of their lives; unless they move from the city limits, they are under observation always.

Q.—They are there permanently then? *A.*—They are there permanently unless discharged apparently cured.

Q.—Now, your purpose and your idea and your intentions are to keep them about three months so as to determine whether or not— *A.*—A minimum of three months.

Q.—A minimum of three months? *A.*—Three months' observation, and if they are negative and their symptoms are gone then they go to the extramural clinic for watching.

Q.—By reason of that system, you are doing that for the purpose of ascertaining whether or not they are amenable to the treatment, and whether they are improving? *A.*—Yes, sir.

Q.—And then after they are there six months it is your determination, more or less, that may be final, and you then try to move them on and get them out? *A.*—Yes. And the greatest determining factor is the sputum positive or negative. When I say positive or negative I mean by exhaustive tests of that sputum, and by culture and by concentration.

Q.—That is the only way, as a matter of fact, that the medical profession can determine whether they are responding? *A.*—There is no greater sign for the measurement of pathologic activity or the smoldering fire in the body than that little bug in the sputum.

Q.—I stated that is the system that the medical fraternity follows for the purpose? *A.*—Yes, sir, that is the National Tuberculosis Association—

Q.—For the purpose of ascertaining whether or not they are amenable? *A.*—Yes, sir.

Q.—Now, it is a fact, is it not, Doctor, that in the collapsing of a lung, when you collapse a lung and you throw these splinters and boards around them that you are speaking of, they still continue to breathe, don't they? *A.*—I didn't speak of any splinters or boards around the lungs, sir.

Q.—I misunderstood you. *A.*—I didn't speak of any splinters or boards around the lungs. I said an air cushion, air cast, I spoke of it as a splint and boards around a broken leg, broken bone.

Q.—You spoke of it as a splinter of air, of air around the lung? *A.*—A splint of air.

Q.—They continue to breathe, do they not, when that splint is there? *A.*—Oh, yes.

Q.—So the lung is not inactive, is it? *A.*—Not wholly so, sir.

Q.—Then when you collapse a lung, when you have a lung collapsed by taking out a rib, for illustration, why is that done, Doctor? *A.*—To collapse the lung, sir.

Q.—When you put a splint of air in there do you take out a rib? *A.*—No, sir, but we do what we call extrapleural pneumothorax. Now, you see, most extrapleural pneumothoraces are done by the intrapleural method, meaning in the normal physiological space between the lung and the thoracic cage, that is the common form of pneumothorax—that is where we put the air splint in and splint the lung down as you do a broken leg. You asked do we remove ribs. Not for that type of pneumothorax, but there is another type called extrapleural pneumothorax. There we must remove a portion, usually the third or fourth rib, and that usually is done in the posterior of the chest. Then the surgeon strips the lung down, and after he strips it down then removes only the one rib, then he injects his normal salines and injects air later as the case goes on.

Q.—That is usually done for the purpose of getting the pus out, is it not? *A.*—That is done, sir, to hold the lung quietly for it to heal, not to throw the pus out, but to hold it still.

Q.—The pus remains right in the lung? *A.*—No.

Q.—If there is any? *A.*—No. It heals, is spit up and cleans it up. About pus, let's not talk pus. Let's talk germ of consumption. This result of collapse therapy, that 60 per cent of the cases that are put on collapse therapy are cleansed, the sputum is cleansed of the bacillus tubercle. In other words turns from positive to negative.

Q.—That is practically washing the lung off? *A.*—It is what?

Q.—You say it is cleansed? *A.*—The sputum is cleansed of the germ, not the lung.

Q.—Now, Doctor, you stated that operation is down now to about 60 per cent, I believe you said, did you not? *A.*—The sputum is cleansed in about 60 per cent of the cases that are treated by the general term collapse therapy. I did not mention any specific form of collapse therapy, but any type of collapse therapy where the patient is advanced enough to have pathology in his chest and allow him to have collapse therapy 60 per cent of those cases are cleansed, their sputum is cleansed of the germ of consumption.

Q.—What percentage of the collapsed lung is available for breathing? *A.*—That depends.

Q.—Approximately? *A.*—As I explained before, with the air cushions we can control the various percentages of functional activity of the lung. That is determined by the amount of pathology present before the treatment started.

Q.—Has that been of recent origin, Doctor? *A.*—Carson Smith of 1829 discovered collapse therapy, and even before that, even in the wars of Rome, the doctors of Rome where the soldiers were punctured by bayonets and the lungs collapsed and had abscess and pus and found they were healed, they thought in those days there was something in collapse therapy. But the one who brought it out in 1829 was Carson Smith.

Q.—In those days you collapsed more lungs than you do now? *A.*—No, no, no, here, I will give you a direct answer to that. I was medical superintendent in the Municipal Tuberculosis Sanitarium in 1918. I worked there until 1923. You ask me "What percentage did you have, Doctor, in that institution?" That is on collapse therapy and I will tell you about 3. Another administration after mine, what percentage did they have in that institution? About 10 per cent of the cases on collapse therapy.

Q.—It is increasing? *A.*—Today I will tell you that 60 per cent of our institution, which is 1,250 patients, are on collapse therapy and 60 per cent of those there before they leave have clean sputum.

Q.—How long do they stay in the institution before they leave? *A.*—As soon as the sputum is negative and clean they are sent to the extramural for observation for the rest of their born days as long as they are in the city limits or classified by the attending physician in extramural cases as apparently cured cases.

Q.—Now, Doctor, is it possible for an individual, for a human, to have tubercle bacilli in his system and it not be active? *A.*—Yes, yes, yes, I think I have them in my system.

Q.—I think you do, too. *A.*—I have worked with them for twenty-five years, so I know I must have them.

Q.—Having them there you have a nice case of tuberculosis? *A.*—I have no tuberculosis, I am just an infected individual as most of us are.

Q.—You are not dangerous to us are you, Doctor? *A.*—No, sir.

Q.—In speaking of the formula, the Holderness formula that you came down to investigate—*A.*—Yes, sir.

Q.—You stated that your report was based on the fact that there was no recognition of that formula and that it was not recognized by the Tuberculosis Association and not established. That is a fact is it? *A.*—Yes, sir, we couldn't get the formula. I asked about the formula. I couldn't get it. I didn't try very hard.

Witness excused.

(To be continued)

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SATURDAY, JULY 8, 1939

PRIMARY TUBERCULOSIS IN ADULTS

Recently Soper and Amberson [1] called attention to a striking change in the concept of pulmonary tuberculosis in adults. The older German phthisiatrists and pathologists, basing their belief largely on necropsy evidence, declared that every man at the end of his life has some tuberculosis in the apex of his lung. The researches of Behring gave much support to the prevailing idea that almost all human beings were infected with tubercle bacilli in infancy or early childhood, that this primary infection in the great majority of cases became localized, encapsulated, inactivated or cured, and that a reinfection or a superinfection took place in a certain number of people under the influence of endogenous or exogenous factors. The introduction and employment of tuberculin testing by the Pirquet method further confirmed the belief in early universal infection with tubercle bacilli. In fact, the test came to be considered clinically unimportant above the age of 12, for everybody then was considered to be tuberculin positive.

As the result of the campaign against tuberculosis in man and in animals a generation of children and young adults developed who did not exhibit allergic sensitivity to tuberculoprotein, who in other words escaped primary infection. Heimbeck of Oslo found that 52 per cent of the students entering a school of nursing reacted negatively to the tuberculin test. In the last fifteen years tuberculin testing of large groups of young adults in the United States has been carried out. According to the seventh annual report of the Tuberculosis Committee of the American Student Health Association for the academic year 1936-1937, positive reactors among 32,281 students amounted to only 30.5 per cent. Thus the infant of today has a much better chance of growing to adult life without contamination with tubercle bacilli than infants of former generations. This new generation, a goodly portion of which has never been infected with tubercle bacilli, presents a new problem, namely that of primary infection in adults. Are such persons more liable to tuberculous infection when exposed and will the ensuing infection be more severe than in those who had been infected in infancy but were not ill? Heimbeck [2] believes that primary infection conveys a certain amount of protection and that tuberculosis allergy is tuberculosis immunity. He vaccinated the negatively reacting nurses with BCG and in a study extending from 1924 to 1935 showed that the group of 287 nurses who were vaccinated till allergy (Pirquet's reaction) was produced gave a morbidity of 8.3 per cent per thousand observation years, a morbidity slightly lower than that of persons who have passed the primary infection without disease. The highest morbidity was in the nurses who were positive at the time of admission.

Differentiation between the primary form and the superinfection forms of the tuberculous disease is difficult. According to Soper and Amberson the primary form can be suspected when the individual has been so closely followed with the tuberculin test that only a short period has elapsed after a change to a positive reaction and the roentgenogram shows a lesion in the lungs previously not present and found on observation not to be due to some nontuberculous infection. They state further that many studies indicate that more tuberculosis develops on exposure among the tuberculin negative than among the tuberculin positive. Primary infection in adults, other things being equal, appears to be distinctly less grave than in infants and no more grave than in older children. The great majority infected in young adulthood show few symptoms and apparently few serious effects. However, the number in whom the effects are serious is apparently far from negligible. To what extent these later primary infections influenced the high morbidity and mortality rate among young adults has not been definitely determined. Myers [3] regards any lesion demonstrable by x-ray examination that appears soon after the tissues are sensitized as representing the first infection type of the disease. If a year or more has elapsed between the making of the tuberculin tests there has been ample time between the last negative and first positive reaction for the first type of infection to develop and also for reinfection to make its appearance. Since 1927 Myers has seen many students of nursing and medicine become contaminated with tubercle bacilli for the first time, the evidence of this contamination being a positive tuberculin reaction which appeared after the student was exposed to tuberculous patients. In a student body of 12,000 the number of those enrolled in the schools of nursing and medicine was relatively small, yet it gave an overwhelming preponderance of tuberculous lesions, indicating that the problem of tuberculosis among young adults is most acute among those students who while

1. Soper, Willard B., and Amberson, J. Burns, Jr.: Pulmonary Tuberculosis in Young Adults, Particularly Among Medical Students and Nurses, Am. Rev. Tuberc. **39**: 9 (Jan.) 1939.

2. Heimbeck, J.: Tuberculosis in Hospital Nurses, Tubercle **18**: 97 (Dec.) 1936.

3. Myers, J. Arthur; Diehl, H. S.; Boynton, Ruth E., and Trach, Benedict: Development of Tuberculosis in Adult Life, Arch. Int. Med. **59**: 1 (Jan.) 1937.

in the line of duty come in contact with tuberculous patients. On the basis of observation of eighty-five cases of primary infection in adults, he concludes that young adults who have not been previously infected with tubercle bacilli become contaminated in large numbers during the course of training in some schools of nursing and medicine. In a small percentage of these the focus of disease when located in the pulmonary parenchyma attains sufficient size to cast a shadow on the x-ray film which can be visualized by the naked eye. The first infection type of tuberculosis, as observed in this group of adults, has resulted in no significant symptoms or abnormal physical signs throughout the entire course of development. Indeed, he states, the lesions in the majority of their cases would not have been known to exist had it not been for periodic tuberculin testing and the making of roentgenograms of the positive reactors. It apparently makes no difference at what time of life the first infection with tubercle bacilli occurs with reference to the average type of tuberculosis in human beings. Among those persons in whom, through exposure with patients with communicable tuberculosis, the first infection type of disease develops, whether in infancy, childhood or adult life, including the third decade, a considerable number will subsequently show a clinical form of tuberculous reinfection. Soper and Amberson likewise feel that the question of the existence of allergy to tuberculosis is less important than the question of exposure to infection. They urge a more widespread emphasis on prevention of infection and on early diagnosis, particularly by tuberculin and x-rays.

PRODUCTION OF ANTIBACTERIAL IMMUNITY WITH ARTIFICIAL ANTIGENS

A recent report by Goebel [1] on the production of artificial antigens which on injection into rabbits engender antibodies for type III pneumococci is significant in the development of immunochemistry. The most remarkable feature of immune reactions is their specificity. In attempting to elucidate the serologic specificity of proteins, Obermayer and Pick [2] investigated the changes in the immunologic reactions which occur when proteins are modified by denaturation or by the action of chemicals such as oxidizing agents, iodine or nitric acid. The possibilities of this approach were soon exhausted. For about a decade further progress was not made. Then a new method of attack was introduced by Landsteiner.[3] This investigator demonstrated that it was possible to synthesize an unlimited variety of antigens by chemically combining organic compounds with proteins, preferably by means of azo linkages, leading to the formation of so-called azoproteins. The new serologic specificity of such antigens was shown to depend on the substances (haptens) united to the proteins. The immune serums, however, reacted directly with the haptens, as shown by Landsteiner with his inhibition technic. Thus, while serologic reactivity was previously believed to be a property only of proteins, it was unexpectedly established that antibodies can react with a large variety of simple chemical compounds bearing no relation at all to proteins or to their component parts. Thus a new chapter in immunology was opened, namely the investigation of serologic reactions in terms of chemical constitution.

Now it was found that many natural antigenic materials, for instance bacteria, contain nonprotein substances (haptens) which give specific serologic reactions.[4] In particular, it was discovered by Heidelberger and Avery [5] that polysaccharides determine the specificity of many sorts of bacteria. Chemical investigation of these polysaccharides in pneumococci showed that each type is characterized by a special polysaccharide. For instance, the polysaccharide of type III pneumococci is made of units of an aldobionic acid, cellobiuronic acid, in glycosidic union.

Armed with these facts, Goebel prepared conjugated antigens (using the "azoprotein method") containing glycuronic acid, which, combined with dextrose, makes up the molecule of cellobiuronic acid. Remarkably, these antigens reacted in high dilution in antipneumococcus horse serums. In order to approximate more closely the chemical structure of the bacterial polysaccharide, an antigen was prepared from cellobiuronic acid. Antiserums were produced with this azoprotein. Then Goebel found that these immune serums agglutinated specifically type III pneumococci and gave capsule swelling with these bacteria. The climax of these experiments was reached when it was demonstrated that the serums gave passive protection to mice against pneumococci of types II, III and VIII, and the antigen immunized rabbits actively against infection with virulent type III pneumococci, establishing for the first time the possibility of immunizing against a specific infection with an artificially produced antigen.

These results are of interest regardless of whether or not they will find practical application. Their clinical use will depend in part on the relative merits of chemotherapeutic measures and specific serotherapy, now under clinical review in the treatment of pneumonia. How difficult it is to foresee what turns the therapy of bacterial disease may take can be seen from a startling recent communication by Dubos,[6] who obtained

1. Goebel, W. F.: Studies on Antibacterial Immunity Induced by Artificial Antigens, J. Exper. Med. **69**: 353 (March) 1939; The Immunologic Properties of an Artificial Antigen Containing Glucuronic Acid, ibid. **64**: 29 (July) 1936.

2. Obermayer, F., and Pick, E. P.: Ueber die chemischen Grundlagen der Arteigenschaften der Eiweisskörper, Wien. klin. Wchnschr. **19**: 327, 1906.

3. Landsteiner, Karl, and Lampl, H.: Ueber die Abhängigkeit der serolologischen Spezifizität an der chemischen Struktur, Biochem. Ztschr. **86**: 343, 1918. Landsteiner, Karl: Spezifische Serumreaktionen mit einfach zusammengesetzten Substanzen von bekannter Konstitution, ibid. **104**: 280, 1920; The Specificity of Serological Reactions, Springfield, Ill., C. C. Thomas, 1936.

4. Zinsser, Hans, and Parker, J. T.: Further Studies on Bacterial Hypersusceptibility: II. J. Exper. Med. **37**: 275 (Feb.) 1923.

5. Heidelberger, Michael, and Avery, O. T.: The Soluble Specific Substance of Pneumococcus, J. Exper. Med. **38**: 73 (July) 1923; **40**: 301 (Sept.) 1924.

6. Dubos, R. J.: Bactericidal Effect of an Extract of a Soil Bacillus on Gram-Positive Cocci, Proc. Soc. Exper. Biol. & Med. **40**: 311, 1939.

a substance from soil bacteria which, it is claimed, destroys all gram-positive cocci and in animal experiments has high protective and curative activity against different types of pneumococci as well as hemolytic streptococci.

INFECTIOUS POLYARTHRITIS IN RATS

The discovery of a spontaneous infectious polyarthritis in the wild and domestic rats of Java offers investigative opportunities heretofore unavailable and has already resulted in a major contribution to experimental medical technic. Two years ago Collier and Esseveld [1] of the Eijkman Institute, Batavia, observed an adult rat (Rattus norvegicus) caught in the suburbs of Batavia which exhibited a peculiar disease characterized by considerable swelling of both hind legs, unaccompanied by signs of disease in the internal organs. The Java pathologists were able to transfer this disease to normal rats by the plantar injection of arthritic joint exudate. About two weeks after such injection the bones of the injected hind leg became remarkably enlarged, x-ray examination showing not only increases in size but distortions in outline and exostoses. Two weeks later similar arthritic changes were usually demonstrable in the opposite hind leg and somewhat later in both forelegs. An occasional arthritic exostosis developed on one or more of the vertebrae of the tail. The infected joint cavities usually contained a cellular exudate, which was almost invariably sterile on routine bacteriologic test. Filtrates from such exudates were invariably noninfectious. The inner organs of the arthritic rats were apparently normal except for a slightly increased amount of fluid in the pleural and pericardial cavities. Afterward it was found that a fulminating type of polyarthritis could be produced in normal rats by injecting relatively large doses of arthritic exudates intraperitoneally or intrapleurally. Following such massive injections the arthritic changes appeared simultaneously in all four legs, often as early as the tenth day after the injection. Spontaneous recovery from the experimental infection was occasionally noted.

More recently Collier [2] has reported that the disease could be transmitted to white rats by scarification and by subcutaneous and intraperitoneal injection as well as by the plantar route. Similar experiences were obtained with field rats. In spite of many careful attempts, it has not yet been possible to cultivate a micro-organism that might be considered to have etiologic significance. Transfer experiments using other than joint tissues obtained from sick rats indicate that the causative agent is not confined to the joints. Collier also reported immunologic studies using fifteen white and seven field rats which had recovered from the disease. Of the fifteen white rats reinoculated only one contracted the disease; in all seven white rats the reaction remained negative.

Thus it appears that once rats have overcome the polyarthritis they exhibit a strong resistance to reinfection. As yet no instances have been found in which complement fixing, precipitating or neutralizing antibodies have been discovered in the serum of immune rats. This disease presents exceptional features of parallelism with chronic rheumatoid arthritis in man and offers promise of yielding information of practical import.

1. Collier, W. A., and Esseveld, H.: Geneesk. tijdschr. v. Nederl.-Indië **78:** 2961 (Nov. 22) 1938.
2. Collier, W. A.: Infectious Polyarthritis of Rats, J. Path. & Bact. **48:** 579 (May) 1939.

Current Comment

AS OTHERS SEE US

In the concluding chapter of a "diary" entitled "American Journey" by Mr. W. H. Ogilvie,[1] surgeon of Guy's Hospital, London, several comments on the American scene deserve attention. The factors that favor good surgical work in America are self evident, Ogilvie says (and include courageousness, independence, self sufficiency, distrust of tradition, pioneering and ability to make quick decisions); but he also notes two adverse factors. One of these is the remarkable lack of individuality in instruments. The tendency of this country is to mass production, and mass production gives everybody goods of admirable finish and appearance and of remarkable quality for the price, but it militates against personal adaptation and fine workmanship. The second adverse factor Ogilvie hesitantly refers to as the "Halsted tradition." The followers of this tradition in the United States "are carrying out the technic of 1910 with all the reverence and attention to detail of a religious exercise and seem to have lost sight of the object with which these details were once introduced." The usual method of dissection of the axilla with a knife is distressing to watch, Ogilvie states; the surgeon takes more than an hour to do part of the operation for which he should take ten minutes, and, more important, the vessels and planes are not nearly as clean; there is more bleeding and more trauma than by the use of a blunt instrument. Graduate surgical teaching in America is, he feels, better than that in England but the undergraduate teaching inferior. American undergraduates appear to be taught didactically, and their training in responsibility comes later and possibly too late. Many textbooks that are published consist of a thin skeleton of facts clothed in a large body of verbiage and pseudoscience. The most penetrating summary of American surgery, Ogilvie feels, is quoted from another Englishman: "American surgery is like American football; they run about like hell for ten minutes and then stop and have a conference." The record of Mr. Ogilvie's peregrinations spreads through many issues of *Guy's Hospital Gazette,* and his views are interesting even if, occasionally, they seem to be based on what might be called cursory data and insufficient observation.

1. Ogilvie, W. H.: American Journey, Guy's Hosp. Gaz. **53:** 172 (May 20) 1939.

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION STUDY OF MEDICAL CARE

REPORT OF COMMITTEE ON MEDICAL ECONOMICS OF THE CHICAGO MEDICAL SOCIETY

1. *The Committee's most important and final conclusion is that the supply of medical care in Cook County is sufficient to meet the active demand for all urgent requirements.* This statement is substantiated by the following:

(*a*) A spot survey by the Nursing Division of the Chicago Board of Health's visiting nurses during the months of September and November 1938 and January 1939 reached 14,808 persons, of whom only thirteen had some difficulty in obtaining medical care.

(*b*) Our direct study of the experiences of 617 families averaging 3.5 persons each and having an average stated annual income of $680.17 for each family for which figures were obtained (567 families for 1937 and 575 for 1938) showed that more than 93 per cent had stated specifically that they had never failed over a period of several years to obtain any form of medical care which they had tried to secure.

Some conception of the enormous amount of services now being supplied as part of the free and part-pay medical care which makes this conclusion possible is given by the following summary:

(*a*) One thousand two hundred and forty physicians and 145 dentists reported that in 1937 they referred 38,816 persons and 1,731 persons respectively for *free medical and hospital care* or *for free dental or medical care.* If the entire memberships of both professions had referred one half as many persons proportionately as did this sample group of 18 per cent and 3 per cent of their total memberships in Cook County, the estimated total number of persons referred for free medical or hospital care would be 107,822; and for free dental or medical care the estimated total number would be 28,850.

(*b*) Nine hundred and fifty-five physicians and 207 dentists reported that in 1937 they accepted for free care or for predetermined reduced fees 173,188 persons and 4,406 persons respectively who had been referred to them from various agencies. One fourth of the proportionate figures for the entire professions would be 309,264 persons and 9,072 persons respectively. It is possible that the number of referred patients came largely from the Chicago Relief Administration and, as only approximately 38 per cent of the physicians and dentists are on the panel for assignment of relief patients, it seemed best in making this estimate to cut the proportionate figures of referred patients for the entire profession to one fourth instead of one half.

(*c*) Twelve hundred and eighty-nine physicians and 271 dentists gave free service in 1937 to 95,884 persons and 6,935 persons respectively who consulted them directly and voluntarily. Half the proportionate figures for the entire professions would be 251,005 and 55,480 persons respectively.

(*d*) Two hundred and seventy-eight physicians reported that in 1937 they had done free 24,978 preventive medical services such as Schick tests, toxoid injections for immunization to diphtheria, smallpox vaccinations and Mantoux (tuberculin) tests. Half the proportionate figures for the entire profession would be 303,131 free services.

(*e*) Four hundred and fifty physicians reported that in 1937 they had given free service to 5,299 obstetric patients. One fourth of the proportionate figures for the entire profession would be 19,842 free obstetric patients. Six hundred and twenty of the 1,518 physicians, or 40 per cent, answered "none" with regard to the number of obstetric patients cared for in 1937 because they did not practice obstetrics; therefore it seemed best in making this estimate to cut the proportionate figures of free obstetric patients for the entire profession to one fourth instead of one half.

(*f*) Two thousand two hundred and seventeen physicians kept count day by day of the number of patients treated in their entire practice for periods of one week; part of these periods were in July 1938, part in October and part in January 1939. During these periods the entire practice of these physicians amounted to 129,430 patients, of whom 23,588 were served without charge and 2,096 were referred to some other source for free care, making a total of 25,684 persons treated free and/or referred elsewhere for free service. The proportionate figures for the entire profession would be 235,127 free patients. Six hundred and thirteen of the 2,217 physicians reported doing 2,342 free operations in the three weeks. Similarly, 423 dentists reporting treated in all 20,196 patients, of whom 1,488 were treated without charge and 169 were referred elsewhere for free care, a total of 1,657 patients. The proportionate figures for the entire dental profession would be 48,026 free patients.

(*g*) There were provided 2,751,465 free hospital days of care in 1937 in addition to 129,916 free days of care in related institutions such as the Chicago Home for Incurables, the Cradle, Salvation Army Booth Memorial, Grove House for Convalescents and the House of Correction Hospital.

(*h*) Outpatient clinics in 1937 gave service free or for minimum charges to the amount of 2,851,223 outpatient clinic visits.

(*i*) The County Physicians' Service made an estimated total of 79,656 free home visits in the city of Chicago for the year ended Nov. 30, 1938.

(*j*) The Chicago Relief Administration furnished medical care in 1937 to approximately 25,000 persons a month. In the course of five years it paid approximately seven million dollars to hospitals, dispensaries, physicians, dentists, pharmacists and for home nursing and other medical services to relief clients on a reduced fee for service basis. Such services included antepartum and postpartum care with some home deliveries, including nursing service from the Chicago Maternity Center. The effective participation of the Chicago Medical Society's Advisory Committee on the Medical Care of the Indigent and Recipients of Unemployment Relief has been one of the outstanding contributions to this work.

(*k*) Medical care to a total of 9,210 persons was furnished by seventeen of the public relief agencies in Cook County outside of Chicago.

(*l*) Eight organizations provide visiting or public health nursing services in the homes of the low-income patients, usually free or occasionally at a nominal cost averaging 25 cents per visit or included in the premiums paid for industrial insurance policies. In 1937 these organizations made 1,657,555 visits to 830,532 patients in Cook County.

(*m*) Incomplete figures from 149 private welfare and relief agencies show that 24,052 persons were furnished medical care. Sixty-four pastors arranged for medical, dental or hospital care for 721 persons. If the entire group of 1,266 pastors consulted did half as much proportionately, they found ways of obtaining such services for 7,131 persons.

(*n*) The medical inspection provided by schools amounted in 1937, in Chicago alone, to 201,941 visits by 145 physicians and 147 nurses, not including eighteen supervisors, to public and parochial schools and 34,089 visits to the dental clinics of the Dental Hygiene Unit of the Chicago Board of Health by children from the first to the fourth grades inclusive. For the county school districts outside of Chicago, equally complete statistical data are lacking, but if half as much service in proportion to the enrolment was provided for the pupils of elementary

With the exception of the omission of references to other pages of the report and the introduction in two paragraphs of sentences from a later section of the report in order to clarify statements, the material here published is taken directly from the summary prepared by the committee.

schools as is given in Chicago the foregoing figures for the city of Chicago would need to be increased about 11 per cent to cover all of Cook County.

(*o*) Two hundred and three pharmacies reported that in 1937 they compounded 24,229 free prescriptions, and 182 pharmacies compounded 55,716 prescriptions at cost or for reduced charges. Half the proportionate number of free prescriptions for all 1,996 pharmacies in Cook County would be 116,653 and half the proportionate number of reduced charge prescriptions would be 305,520.

2. *Notwithstanding the foregoing conclusion that the supply of medical care is sufficient to meet the active demand for all urgent requirements, the committee is convinced also that many very important needs exist.* Such needs include more facilities and better use and distribution of the present facilities especially for the purpose of recognizing and meeting the "actual needs" of the situation as . . . distinguished from the "active demand."

Our ideal must be to provide complete medical care, including both active demands and actual needs, for all who should have it. To achieve such an ideal means the formulation of measures which will provide medical care for the entire population at some periods in their lives, including those who seek it actively in addition to those who do not realize, and those who are unable to recognize, their own needs for it, and those who will not accept it. The accomplishment of such a program requires continuous and progressive improvement with respect to professional technics and mental attitudes of all who participate in giving any part of complete medical care. To this end, as the plan develops, the public at large must realize and evaluate the nature of this effort, its difficulties and successes. Thus there is emphasized the importance to all of public relations on a broad and sincere basis and of general education.

3. *The basic need of all, whether recipients or providers of medical care, is education.* The greatest need shown by the study is expressed by one word, "Education." It has been reliably stated that 10 per cent of the population does not wish medical care. Education includes not only that of the medical profession itself but of all the professions and technical groups having to do with improved and expanded health activities, as well as the education of the general public. The Committee's conclusions and recommendations which involve education include the following:

1. Education of the professions giving medical care as specifically recommended in connection with the necessity for the maintenance of the highest professional standards throughout the expanded medical care services which are already being developed over the entire country. Their development has perhaps been too much accelerated by the National Health Program of the Interdepartmental Committee on Health and Welfare Activities of the government. Too much speed in development may result in unsound plans, the failure of which can only result in an inferior quality of medical service.

2. The continuous participation of a committee of active and interested physicians in school health activities in cooperation with the school personnel, parent-teacher associations, the public at large and health departments, including the proposed single county health administration.

3. The education of the medical profession itself in cooperation with the pharmaceutical profession, whereby the splendid work of the Council on Pharmacy and Chemistry of the American Medical Association will become effective in the everyday practice of these professions in the reduction of the expense to patients of medication from the unwarranted prescription of proprietary preparations.

4. The education of the public particularly, and of all practitioners of medicine and dentistry, including those sections of these professions limited to the practice of specialties, so that they all may know they have in the proposed nationwide Committee on Education in Regard to Medical Care a common source, through interpretation of research, of authoritative basic information concerning scientific developments and alleged developments in science.

5. Stimulation of college and university faculties to include health education in their curriculums.

4. *The dental profession of Chicago and Cook County has made a great contribution in dental service and toward education of its members and the public.* This statement refers particularly to the huge dental examination plan in the public schools of Chicago as described in detail in the *Bulletin* of the Chicago Dental Society of March 31, 1939, by the chairman of the society's educational committee. Through cooperation of the Board of Education, the Board of Health and the Mouth Hygiene Council, it is planned that by the close of the present school year 35,000 pupils in twelve very carefully selected schools and their parents will have been given this number of specific demonstrations of dental health standards and deficiencies as applied to individuals, with follow-up work in seven schools by parent-teacher associations having a dental health chairman for each school and committee members for each classroom, by the Mouth Hygiene Council in one school, by the teachers alone in two schools to be used as controls, and by Chicago Women's Aid Mothers' Clubs in two schools. The purpose of the follow-up is to influence the parents to have the dental corrections made. This latest accomplishment of the dental profession confirms the Committee in the belief that an improved program for dental care will be carried out as rapidly as circumstances may permit. The publication in December by the Chicago Dental Society of "The Cost of Dental Care under Health Insurance" by Peter T. Swanish, Ph.D., is another recent evidence of the effective consideration of the place of dentistry in a comprehensive program of medical care.

5. *The comments of those who returned questionnaires quoted in this report are of great educational value.* Much space is taken in this report by direct and indirect quotations of the comments of many individuals. Every questionnaire and accompanying letter used in the study asked for comments, promising specifically that the identity of the writers would not be disclosed, and the chairman of the Advisory Committee on Supply of Medical Care of the American Medical Association, at its San Francisco meeting and at least twice in Chicago during the last seven months, emphasized to physicians their importance above everything else. Careful reading and consideration of these comments will help us to see our problems of medical care as they are seen by others and will contribute to our understanding of the situation—this being part of the self education by the medical, dental, nursing, teaching and pharmaceutic professions.

6. *The report of the House of Delegates of the American Medical Association concerning the National Health Program is unqualifiedly endorsed and the limitation recommended in the proposed expansion of maternal and child health services is emphasized.* The Committee believes that the application of subitem 3 of section 3 of the House of Delegates' report to the proposed expansion of maternal and child health services (recommendation 1-B, title V) is of great importance. The section referred to in the National Health Program to which subitem 3 is to be applied reads as follows: ". . . to make available to mothers and children of *all income* groups . . . the minimum medical

services essential for the reduction of our needlessly high maternal mortality rates and death rates among newborn infants, and for the prevention in childhood of diseases and conditions leading to serious disabilities in later years." The qualifying subitem 3 which the House of Delegates would apply to this report reads as follows: "Any expenditures made for the expansion of public health and maternal and child health services *should not include the treatment of disease* except so far as this cannot be successfully accomplished through the private practitioner."

7. *Compulsory health insurance in any form is inadvisable.* This is the belief of the Committee, which regrets that the National Health Program as transmitted to Congress was not accompanied by the report of the House of Delegates of the American Medical Association and that it did not include a definite recommendation for a Department of Health with a Secretary of Health as a member of the President's cabinet.

8. *The Committee recommends that the council of the Chicago Medical Society request the council of the Illinois State Medical Society to appoint a committee to draft a nonprofit group insurance plan of payment of physicians, with or without hospitalization benefits, to be presented to the Illinois State Medical Society's house of delegates at its next regular or special meeting for its consideration, the said proposed plan to be in accordance with the report of the House of Delegates of the American Medical Association in September 1938.* Many such plans are now reported in use in the United States and at the present time their legal authorization is before the legislatures of Michigan, New York, Ohio, Pennsylvania, Wisconsin and possibly other states. The following is a partial alphabetical list of the cities and states where such plans are now sponsored by the local medical professions:

Atlanta	Gary (Indiana)	Oregon (state)
Boston	Hawaii	Richmond
California (state)	Michigan (state)	San Antonio
Cincinnati	Milwaukee	Tulsa (Oklahoma)
Cleveland	Missouri (state)	Utah (state)
Columbus	New Orleans	Washington, D. C.
Dallas	New York (state)	Washington (state)
Denver	Ontario (province)	Wisconsin

The American Medical Association has stated that there are in the United States "more than 300 mutual benefit associations which collect dues from members and pay specified amounts of money for each day that the member is ill in order to assist him in the payment of his medical bills." Two such organizations are the Carnegie Illinois Steel Corporation's Employees' Relief Association at Gary, Ind., and the Spaulding Employees' Mutual Benefit Association at Binghamton, N. Y.

9. *All governmental hospitals in Cook County except state and federal hospitals should be administered by a single metropolitan hospital commission to be authorized by legislation and to be appointed by the Chicago city and Cook County administrations.* A disclosure of vital importance to medical care of the indigent and low-income groups is the lamentable absence of a broad, comprehensive, coordinated public hospitalization program adjusted to the needs of a total population of nearly four and one-half millions. The Committee believes that the only logical means of improving the public hospital situation in the interests of both the taxpayer and the sick is to bring all the public hospitals —excepting state and federal institutions—in the city and county under one nonpartisan metropolitan controlling board with a Medical Advisory Council and an outstanding medical administrator in charge.

10. *Other hospital needs are listed below:*

1. There should be a more widespread distribution geographically of facilities throughout the entire county for the care of the medically indigent, using so far as possible existing hospital and clinical facilities—by government subsidy if necessary.

2. More subsidized beds are needed for children and maternity patients, and additional beds for colored patients, patients with active tuberculosis and for nervous and mental patients.

3. More facilities should be provided for the care of chronic and incurable patients and for the treatment of patients during the long and often discouraging period of convalescence.

4. Some thirty unapproved hospitals having more than 1,200 beds should be brought up to the standard necessary to secure admission to the list of registered hospitals of the American Medical Association, and their staffs should be encouraged to have these hospitals registered.

5. Better appreciation is needed on the part of certain private hospitals of their obligations to contribute accurate statistical and financial data in standardized form to such fact-finding studies. The Committee believes that strong support of the Chicago Hospital Council's activities is one of the best means of insuring this very desirable end.

11. *The public ambulance service plan should be adopted.* The Committee believes that the plan proposed by the joint committee representing the Chicago Medical Society, the American College of Surgeons, the Chicago Council of Social Agencies and the Chicago Hospital Council should be adopted by the city of Chicago. This plan provides that the ambulances are to be purchased by the city and, after assignment to hospitals, each institution would be responsible for staffing and maintaining the vehicle and conducting the service in accordance with the rules and regulations formulated by the Emergency Ambulance Board.

12. *Nursing care now being provided for the sick in their homes.* The demand for low cost practical nurses to care for the sick in their homes is a large one. The commercial nurses' registries now try to provide nurses for this work at whatever salary is offered, and, since the amount offered is often too small to obtain a graduate nurse or even an experienced practical nurse, the resultant unmet need for low cost nursing opens a field which is being exploited by advertising correspondence schools of nursing. The promises of such schools attract students but the instruction gives them no practical experience in bedside nursing in return for their tuition. The schools soon thrust out the students as graduate practical nurses with diplomas and pins to prey on the public as cheap home nurses willing to work for less than $15 a week. This situation is one which seems to demand that the medical profession, as well as the nursing profession, give it thoughtful consideration, with a view to legislative action to protect the public. The Committee believes that all nursing registries should keep permanent records of the types of complaints and their possible diagnoses for which they are asked to provide nursing care, and that they should be required to report to the health department all requests for nursing received by them in which there seems to be a possibility of the presence of some reportable disease.

13. *A single county health department should replace the many health departments now existing in the smaller villages and interurban districts.* This change contemplates that a full time physician with special training and experience in health organization would be in charge of the department and that it would be given a budget sufficient to provide adequate service to the area covered, which would increase as more and more

areas now having independent health officers might decide to contract with the county health department for such service.

14. *Nonresidents should be given emergency medical care services without delay and the responsibility for doing so in each area should be definitely fixed.* The present rule is that a person coming from another state to live in Cook County does not acquire a legal residence here until he has been here a year. If he comes to Cook County from another county in Illinois he must be here three months before he becomes a legal resident in Cook County, and he must have been a resident in Cook County for twelve months before he is eligible for care in the County Hospital. If a nonresident patient is so ill that he cannot be returned to his home town he may be taken care of by the County Hospital until such time as he is well enough to be transferred. A nonresident of the low income group who is ill or injured in Cook County is rarely able physically or financially to return to his place of legal residence for medical care at governmental expense. The cost of his care and that of hundreds, and even thousands, of others in similar predicaments in the course of a year becomes a matter of large total. The purpose of this recommendation is to place the responsibility for providing medical care on the local community, which is in a much better position to judge as to who shall bear the cost than is the sick, and often penniless, patient.

15. *The office of the Chicago Medical Society should include a department of medical care.* The director of this department should be a carefully selected physician of reputation and experience. There would thus be provided a place where reports of persons in immediate need of medical services which they could not secure could be received and promptly investigated with a view to their adjustment. Such a department would assist welfare agencies and other organizations and individuals desiring information about any phase of medical care and would bring to this Committee's attention specific situations and conditions which might be improved by action of the Chicago Medical Society or of other professional groups.

16. *Treatment of ambulatory relief patients in private physicians' offices will lessen the load now being borne by outpatient clinics.* Also the number of nonambulatory patients occupying free and part-pay beds in hospitals and related institutions for the care of the convalescent, chronic and incurably ill would be lessened materially and the patients themselves would receive better care if selected individuals could be treated at home under the supervision of private physicians. The Committee urges that plans for the medical care of these two groups of patients by private physicians in their private offices for ambulatory patients and in the patients' homes for those not absolutely requiring institutional care be made, thus reducing the need for more outpatient clinic facilities and for more institutional beds for the care of the chronically ill and convalescent.

17. *All welfare and relief organizations in the county should be formally advised of the Chicago Medical Society's appreciation of their efforts* to provide or arrange medical care for those needing and seeking it and of the society's desire to assist in this work whenever its assistance might be possible or desired.

18. *The large field of health services in schools should have the continuous and considered attention of the medical society.* The Committee recommends that there should be a standing committee of active and interested physicians for this purpose, and it is hoped that it would successfully undertake the responsibility of providing progressive leadership agreeable to all concerned, including the public, parent-teacher associations and the school personnel.

19. *Helpful interest in the health services of colleges and universities should be shown by the society.* The Committee foresees the possibility not only of an increased demand in this field for the coverage of student illness by prepaid insurance of hospital costs, but also possibly for a similar method of payment to cover physicians' services. Such a plan should provide for free choice of physicians. The Committee believes that the curriculum should include serious and carefully planned instruction which will feature the criteria by which scientific advances in our knowledge concerning health may be distinguished from pseudo-advances, such as commonly characterize sales promotion efforts. These colleges and universities should understand and teach that the physician-patient relationship is both legally and professionally one between the patient and the individual practitioner of the healing art rather than one in which such a practitioner is the employee of a third party, as of a college, hospital or other corporation.

20. *Medical care services provided by industrial organizations, fraternal societies and pharmacies are of great interest to the medical profession.* The Committee believes that criticism of first aid departments which are not constantly under the supervision of physicians is justified and that such services, which amount to the practice of medicine by unlicensed practitioners, should be discouraged. The Commitee feels that the further growth of the group hospitalization movement will contribute much to greater security of both employers and employees as concerns medical care, that it is very much to be desired that such insurance and all other periodic payment plans of providing any type of medical care should continue to be on a nonprofit basis, and that it would be most unfortunate if commercial insurance companies should succeed in developing this field for profit. In the field of pharmacy, the introduction of large numbers of expensive preparations which physicians and hospitals are being importuned to use in preference to the older preparations of the U. S. P. and N. F. has complicated the practice of medicine and pharmacy and the administration of hospitals by adding additional expense for the patient to all of these. This problem urgently requires mutual consideration and action on the part of physicians, pharmacists, medical schools and hospitals. To assist in its solution, every medical journal and bulletin and the rank and file of physicians themselves should support loyally, intelligently and enthusiastically the work of our Council on Pharmacy and Chemistry, and of the Council of Physical Therapy of the American Medical Association, in a somewhat similar field.

Respectfully submitted.

COMMITTEE ON MEDICAL ECONOMICS
HERMAN L. KRETSCHMER, Chairman.
L. E. DAY.
WALTER C. HAMMOND.
EMMET KEATING.
FREDERICK B. MOOREHEAD.
G. HENRY MUNDT.
JOHN S. NAGEL.
ROLLO K. PACKARD.
W. J. POTTS.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ALABAMA

New Jefferson Hospital.—Work has begun on the new $2,000,000 Jefferson Hospital and nurses' home, Birmingham. The first two floors of the sixteen story building will be limestone, while the remaining exterior will be brick with light mortar. The roof will be of shingle tile. The new structure will house 575 patients. About $900,000 of the total cost will be supplied by PWA funds. Dr. Harry Lee Jackson has been named medical adviser of the hospital to furnish technical suggestions for construction and equipment, according to the Birmingham *News*.

ARKANSAS

District Meetings.—The seventy-third semiannual meeting of the First Councilor District Medical Society was held at Tyronza, May 24. The speakers included Drs. Martin L. Cantrell, Marked Tree, on "Indications and Dosage of Sulfanilamide"; Walter C. Overstreet, Jonesboro, "Varied Uses of Sulfanilamide and Their Evaluation"; Benjamin F. Turner, Memphis, Tenn., "Reminiscence in Medicine for the Past Fifty Years"; Woodrow McD. Lamb, Paragould, "Pathologic, Clinical and Preventive Aspects of Endamoeba Histolytica Infection," and Oscar T. Cohen, Jonesboro, "Nonsurgical Treatment of the Sinuses."——At a recent meeting of the Second District Medical Society in Batesville the speakers were Drs. Ernest H. White and Samuel Phillips, both of Little Rock, on "Prenatal and Postnatal Care in Obstetrics" and "Feeding the Normal Infant" respectively.——The Ninth Councilor District Medical Society was addressed in Harrison June 6 by Drs. Albert S. Buchanan, Prescott, on "Medical Progress"; Urban J. Busiek, Springfield, Mo., "Sulfanilamide and Sulfapyridine in Pediatrics"; Guy D. Callaway, Springfield, Mo., "Diabetic Emergencies"; Paul L. Mahoney, Little Rock, "Diagnosis and Treatment of Foreign Bodies in the Food and Air Passages" and Joseph F. Shuffield, Little Rock, "Fractures of the Ankle."

CALIFORNIA

State Camp for Diabetic Children.—The University of California Medical School will establish a recreation camp for diabetic children of the state in Whitaker Forest, Tulare County, July 31-August 27. Thirty children between the ages of 7 and 16 can be accommodated for each two weeks' period. The chief source of funds for the camp is the Diabetic Society of America recently formed in San Francisco. Dr. Mary B. Olney, department of pediatrics of the university, will be in charge. Recreation and treatment facilities will be available to the extent of the university's resources in the event that it can obtain the necessary outside finances.

COLORADO

Society News.—Dr. Rudolf Schindler, Chicago, discussed gastroscopy before the Medical Society of the City and County of Denver June 6. A symposium on the surprising prevalence of animal-borne diseases in Colorado was presented before the society May 2.——At a meeting of the Crowley County Medical Society May 5 Dr. Henry A. Buchtel, Denver, discussed urology from the general practitioner's point of view.——Dr. Lee Bast discussed diseases of the eye before the Delta County Medical Society, Delta, April 28.——A cancer clinic was conducted before the Fremont County Medical Society in Canon City April 17 by Drs. Edwin T. Thorsness, Harold R. McKeen and Osgoode S. Philpott, all of Denver.——At a meeting of the Mesa County Medical Society, Grand Junction, May 16, Drs. Frank J. McDonough spoke on abortion and Richard Waldapfel on tracheotomy.——Dr. Rodney H. Jones, Denver, addressed the Northeastern Colorado County Medical Society in Sterling, April 13, on "Clinical Aspects of Hematology." The society was addressed May 11 by Drs. Charles W. Metz, Denver, on "Use of the Newer Anesthetic Agents," and Portia Lubchenco, Sterling, "Pellagra."——Dr. Carl Schwer, Pueblo, discussed "Psychopathology, the Public and the Physician" before the Pueblo County Medical Society May 16 and Dr. Julius L. Rosenbloom, May 2, "Brain Abscess."

DISTRICT OF COLUMBIA

The Davidson Lecture.—The fifth Davidson Lecture of the Medical Society of the District of Columbia will be delivered October 11. Physicians and scientists who wish to compete for the privilege of being the lecturer must submit their essays to the secretary of the society before September 1. Only persons working in the District are eligible.

GEORGIA

Dr. Kelly Resigns as Hospital Superintendent.—Dr. George Lombard Kelly, dean of the University of Georgia School of Medicine, Augusta, has resigned as superintendent of the University Hospital. Dr. Kelly will serve in an advisory capacity until September 1, when he will become medical director of the teaching facilities at the hospital, it was stated.

Public Health Meeting.—W. H. Weir, Atlanta, was named president of the Georgia Public Health Association at its annual meeting in Atlanta June 8-10 and Dr. Gordon T. Crozier, Valdosta, was reelected secretary. Among others, the following spoke:

Dr. Mark F. Boyd, malariologist of the Rockefeller Foundation, Tallahassee, Fla., Recent Advances in the Knowledge of Malaria.
Dr. Rolla E. Dyer, chief, division of infectious diseases, U. S. Public Health Service, Typhus Fever and Public Health.
Justin Andrews, Sc.D., state department of health, Acquired Immunity to Malaria.
Dr. A. Wilson Brown, state department of health, Epidemiologic Studies of Typhoid Fever in Georgia During 1938.

At the banquet Drs. John W. Oden, superintendent, Milledgeville State Hospital, spoke on "Mental Hygiene" and Felix J. Underwood, state health officer of Mississippi, Jackson, "Public Health—A Job for All."

IDAHO

Advisory Group on Industrial Medicine.—Six physicians were recently appointed by the governor to advise the industrial accident board on workmen's compensation claims arising from silicosis. They are Drs. Frank C. Gibson, Potlatch; Clifford O. Armstrong, Moscow; Willard O. Clark, Lewiston; James L. S. Stewart, Boise; Abram M. Newton, Pocatello, and Joseph N. Davis, Twin Falls.

Society News.—A symposium on asphyxia of the newborn was presented before the North Idaho District Medical Society recently by Drs. Frederick R. Fischer, James M. Nelson, Milo T. Harris and James D. Edgar, all of Spokane, Wash.——The Pocatello Medical Society was addressed May 5 by Drs. William W. Brothers on a peculiar type of fracture resulting from ski accidents which occurred while he was resident physician at Sun Valley, and Abram M. Newton, treatment of fractured arms of children.

ILLINOIS

Society News.—At a meeting of the Coles-Cumberland County Medical Society in Mattoon May 24 Dr. Meyer A. Perlstein, Chicago, spoke on "Use of Sulfapyridine in Pneumococcal Infections with Specific Reference to Pneumonia."——Dr. Everett Lee Strohl, Chicago, addressed the Aesculapian Society of the Wabash Valley in Robinson May 25 on "Surgery of the Aged."——Dr. Robert H. Graham, Aurora, was elected president of the Presbyterian Hospital Alumni Association at its annual reunion dinner in Chicago June 12.——The Henry County Medical Society was addressed at Kewanee May 25 by Drs. John A. Wolfer and Harold E. Davis, Chicago, on "Pathology and Diagnosis of Gastric and Intestinal Carcinoma" and "Indications and Use of Radium and Deep Therapy in Treatment of Carcinoma."——Dr. Willard Van Hazel, Chicago, discussed "Surgical Treatment of Pulmonary Tuberculosis" before the Marion County Medical Society at Centralia May 25.

Chicago

Health Insurance Plan Approved.—The committee on medical economics of the Chicago Medical Society has recommended the preparation of a plan for statewide voluntary health and hospital group insurance, newspapers reported June 4. The recommendations of the committee are contained in a report of nearly a year's study supervised by Dr. Herman L. Kretschmer, chairman, and Dr. William H. Walsh, director of study. The committee went on record as opposing the federal government's proposal for compulsory sickness insurance, it was reported.

Grace Abbott Dies.—Miss Grace Abbott, for many years chief of the Children's Bureau, U. S. Department of Labor, died of anemia June 19 in the Albert Merritt Billings Hospital, aged 60. Miss Abbott graduated at Grand Island College, Nebraska, and studied at the University of Nebraska and the University of Chicago. She served as director of the Immigrants' Protective League, 1908-1917; member of the faculty

of the Chicago School of Civics and Philanthropy, 1910-1917; director, child labor division of the U. S. Children's Bureau, Washington, D. C., 1917-1919; adviser, War Labor Policies Board, 1918; executive secretary, Illinois Immigrants Commission, 1920-1921; chief of the Children's Bureau, 1921-1934, and since 1934 professor of public welfare at the University of Chicago. She was president of the National Conference on Social Work in 1924.

IOWA

District Meeting.—Dr. Raymond E. Peck, Davenport, was elected president of the Iowa and Illinois Central District Medical Association at its annual meeting in Davenport May 11. Dr. Charles E. Robb, Rock Island, Ill., was chosen vice president, and Drs. James Dunn, Davenport, and Florens E. Bollaert, East Moline, Ill., were reelected secretary and treasurer respectively. The speakers included among others: Drs. Fred H. Albee, New York; James B. Eyerly, Chicago; Edward B. Tuohy, Rochester, Minn., and John A. Borghoff, Omaha.

University News.—Hans O. Haterius, Ph.D., Detroit, lectured on "Hormones of the Pituitary Gland" at the State University of Iowa College of Medicine, Iowa City, May 11, under the auspices of the University Graduate College and the Iowa chapter of the Society for Experimental Biology and Medicine.——Dr. Harry P. Smith, professor of pathology, State University of Iowa College of Medicine, has received a grant of $1,500 from the John and Mark R. Markle Foundation for further studies in blood coagulation and hemorrhagic diseases; this grant is in addition to one of $10,000 previously awarded for studies in this field.

LOUISIANA

Society News.—The Ouachita Parish Medical Society was addressed in Monroe recently by Drs. Eugene H. Countiss and Charles Barrett Kennedy, both of New Orleans, on "Treatment of Cervicitis" and "Secondary Infection of Fungus Dermatitis" respectively.

Cooperative Study of Cancer.—At the request of the division of infectious diseases, U. S. Public Health Service, Washington, the department of pathology and bacteriology of the Louisiana University Medical Center, New Orleans, will participate in a study of certain phases of the cancer problem now being investigated by the service. Kenneth L. Burdon, Ph.D., assistant professor of immunology and bacteriology, has been appointed as consultant in charge from the medical school. It is expected that the work will cover a period of years.

District Meetings.—At the quarterly meeting of the Second District Medical Society in La Place recently Drs. Emmett L. Irwin, New Orleans, discussed surgical phases of gallbladder disease and William W. Heyerdale, Rochester, Minn., "Retrograde Injection of the Great Saphenous Vein."——The Fourth District Medical Society was recently addressed in Shreveport by Dr. Millard F. Arbuckle, St. Louis, on bronchoscopy; Walter T. Colquitt, D.D.S., and Dr. Clarence H. Webb, "Dental Disease in an Aboriginal Group."——Dr. John H. Musser, New Orleans, discussed "Treatment of Pneumonia" before the Sixth District Medical Society recently in Baton Rouge and Dr. Charles McVea, Baton Rouge, "Infections of the Face."——A recent meeting of the Seventh District Medical Society in Crowley was addressed by Drs. Waldemar R. Metz and John T. Sanders, both of New Orleans, on "Primary Plastic Repair of Facial Injuries" and "Dysmenorrhea" respectively.

MARYLAND

Meeting of Post Mortem Examiners Commission.—The Maryland Post Mortem Examiners Commission, which was recently established under the enactment of chapter 369 of the state laws of 1939, held its first meeting at the Medical and Chirurgical Faculty, Baltimore, May 11. Under the law the commission shall consist of the professors of pathology of the schools of medicine of the University of Maryland and Johns Hopkins University, the state director of health, the commissioner of health of Baltimore and the attorney general of Maryland. A chief medical examiner and two assistants, physicians trained in pathology, will be appointed by the commission as well as a group of deputy medical examiners from lists submitted by the county medical societies for service in the counties, all to be trained in pathology. The entire group is to attend to all the medical functions now devolving on coroners and postmortem physicians in Baltimore or on coroners or justices of the peace acting as coroners throughout the state and to perform all duties imposed on them by the provisions of the new law. At the organization meeting Dr. William G. MacCallum was elected chairman of the commission, Dr. Robert H. Riley vice chairman and Dr. Huntington Williams secretary.

MICHIGAN

New Tuberculosis Unit.—Ground was broken May 8 for the new $300,000 unit of the Detroit Tuberculosis Sanatorium, on the site of the present sanatorium at Tuxedo and Twelfth streets, Detroit. The new institution will be named after Dr. Burt R. Shurly. The addition will contain ninety beds besides operating and x-ray rooms and laboratory space for medical research. The sanatorium is financed by the annual sale of tuberculosis Christmas seals.

Advisory Council to Nurses' Board.—A medical advisory council has been organized for the state board of registration of nurses and attendants, under the amendatory act to the nurse registration law recently signed by the governor. Members of the new council include Drs. Clarence G. Clippert, Grayling; Ellery A. Oakes, Manistee, and Morley B. Beckett, health officer at Allegan; Mr. Ralph M. Hueston, superintendent of Hurley Hospital, Flint, and the Rev. Alfred F. Way, superintendent of Bronson Hospital, Kalamazoo.

Personal.—Dr. Leo G. Christian, Lansing, has been appointed a member of the Michigan Social Welfare Commission for a two year term. The commission is composed of five persons. Dr. Christian is president of the Ingham County Medical Society and a member of the House of Delegates of the American Medical Association.——Elizabeth C. Crosby, Ph.D., professor of anatomy, University of Michigan Medical School, Ann Arbor, was to leave in June for Aberdeen, Scotland, where she is to serve as guest lecturer during the coming academic year. According to the *University Hospital Bulletin*, Dr. Crosby is to continue her work on the anatomy of the nervous system while in Scotland and will assist in the development of a department in this specialty at the University of Aberdeen.

MINNESOTA

State Medical Election.—Dr. Bertram S. Adams, Hibbing, was elected president of the Minnesota State Medical Association at its annual meeting in St. Paul May 30. Drs. Carl M. Johnson, Dawson, and Archibald E. Cardle, Minneapolis, were chosen vice presidents; Benjamin B. Souster, St. Paul, secretary, and William H. Condit, Minneapolis, treasurer.

MISSISSIPPI

Society News.—The Northeast Mississippi Thirteen County Medical Society was addressed at its quarterly session at Houlka June 13 by Drs. Thomas H. Blake, Jackson, on Colles fracture; Cecil E. Warde, Memphis, obstetrics; John D. Dyer, Houston, diagnosis of dyspepsias; George G. Armstrong, Houston, early treatment of eye injuries, and James T. Doster Jr., Columbus, intracranial injuries. Tribute was paid to Dr. William C. Walker, Houlka, who is celebrating his eightieth birthday this year.——At a meeting of the Central Medical Society in Jackson June 6, members of the staff of the Louisiana State University Medical Center, New Orleans, presented the following program: Drs. Joseph Rigney D'Aunoy, "Lymphogranuloma Inguinale, a Problem for the South"; Henry Theodore Simon, "Facts About Fractures"; James W. Tedder, "Common Skin Diseases and Their Treatment"; Edwin A. Socola, "Therapy of the Diarrheas in Early Life"; Edgar Hull, "Remediable Factors in Heart Disease"; Hugh T. Beacham, "Consideration of Hematuria with Special Reference to the Painless Type"; Peter Graffagnino, "Treatment of Dysfunctional Disorders of Menstruation"; Rupert E. Arnell, "Bleeding in the Last Trimester of Pregnancy," and Urban Maes, "Modern Concepts of Intestinal Obstruction."

NEW HAMPSHIRE

State Medical Election.—Dr. James B. Woodman, Franklin, was elected president of the New Hampshire Medical Society at the annual meeting, June 8-9, in Manchester; Dr. Ezra A. Jones, Manchester, vice president, and Dr. Carleton R. Metcalf, Concord, reelected secretary.

NEW YORK

Centennial of Albany Medical College.—The one hundredth anniversary of Albany Medical College, Albany, was celebrated at its annual commencement June 12 with Drs. James Ewing, New York, and La Salle Archambault, Albany, as guest speakers. Dr. John E. Heslin, president of the college alumni, presented a commemorative plaque on behalf of the alumni association to a member of the graduating class. At a banquet in the evening Dr. Heslin was toastmaster and the speaker was Mr. Raymond Clapper, Washington, D. C.

New York City

Society News.—The International and Spanish-Speaking Association of Physicians, Dentists and Pharmacists held its twelfth anniversary banquet at the Waldorf-Astoria Hotel May 19 with Dr. Walter Gray Crump as toastmaster. Dr. Jacob M. Gershberg is president of this society.——Drs. Haven Emerson and Ernst P. Boas addressed the Bronx County Medical Society June 21 on the Wagner health bill.

Professional Club at the Fair.—Members of the medical and allied professions visiting the New York World's Fair will have for their exclusive use the Professional Club in the Medicine and Public Health Building. The club occupies an area of 5,000 square feet and is provided with a lounge, checking facilities, rest rooms, stenographic service, telephones and other conveniences. Membership is limited to accredited members of the medical and public health and allied professions and to representatives of exhibit sponsors. Professional members pay no dues, but there is a small certification charge to cover the cost of validating credentials. The management is vested in a board of directors. The officers are Drs. James Reuling, president; Edward R. Cunniffe and Matthias Nicoll, vice presidents; Benjamin Wallace Hamilton, treasurer, and Mrs. Wilhelmina Rayne Walsh, secretary.

Convalescent Day Camp Opened.—The New York City Department of Hospitals opened on Welfare Island July 1 the Convalescent Day Camp, believed to be the first public institution of its kind in the United States. The camp occupies thirteen acres and comprises eight shelters to accommodate about 300 patients daily. An administration building includes diet kitchens and a central dining room. Admission to the camp will be for ambulatory patients between the ages of 12 and 60 and on application by hospitals, clinics and welfare agencies to the admitting physician. Dedication ceremonies were held June 29, at which Dr. Sigismund S. Goldwater, commissioner of hospitals, presided, and the speakers were Mayor La Guardia, Col. Brehon Somervell, WPA administrator for New York City, and Dr. Herbert B. Wilcox, director of the New York Academy of Medicine. The camp was built by the WPA.

American Museum of Health Launched.—Plans for the establishment of the American Museum of Health were announced at dedication ceremonies held in the Hall of Man in the Medicine and Public Health Building at the New York World's Fair June 17. The Carnegie Corporation, the Rockefeller Foundation, the Oberlaender Trust and the major life insurance companies have made possible the establishment of the museum and acquisition of most of the displays at the medicine and health building. These exhibits will be maintained and expanded in a permanent health teaching center in New York at the end of the fair. At the formal exercises dedicating the museum Dr. Livingston Farrand, president emeritus of Cornell University, presided and the speakers included Mayor La Guardia, Grover A. Whalen, president of the fair, and Drs. Edward S. Godfrey Jr., Albany, state health commissioner, John L. Rice, city health commissioner, Arthur W. Booth, Elmira, chairman of the Board of Trustees of the American Medical Association; George Baehr of the New York Academy of Medicine; Abel Wolman, Dr.Eng., Baltimore, president of the American Public Health Association; Louis I. Dublin, Ph.D., chairman of the executive committee on medicine and public health for the fair, and Homer Calver, secretary of the museum and director of the fair's health exhibit.

OHIO

Typhoid Near New Bedford.—Newspapers report an outbreak of typhoid in and near New Bedford in Tuscarawas and Coshocton counties. Three deaths had occurred up to June 10 and four persons were ill in the family of one of the victims. It was said that several other families in the vicinity had been stricken. Although the source of the epidemic had not been established at the time of the report, it was suspected that a well at the home of the first family involved was responsible.

OKLAHOMA

Southern Oklahoma Meeting.—The Southern Oklahoma Medical Association held its quarterly meeting in Sulphur June 6 under the auspices of the Murray County Medical Society. The speakers were Drs. Charles P. Bondurant, Oklahoma City, on "Cancer of the Uterus"; Arthur E. Hertzler, Halstead, Kan., "Goiter: Its Types and Treatment"; Tate Miller, Dallas, Texas, "Colitis," and Russell C. Pigford, Tulsa, "Management of Arteriosclerotic Heart Disease."

OREGON

Society News.—Dr. Brien T. King, Seattle Wash., addressed a special meeting of the Multnomah County Medical Society, Portland, June 7 on "A New and Function-Restoring Operation for Bilateral Abductor Cord Paralysis." Drs. James H. Huddleson and De Witt C. Burkes addressed the society May 17 on "Terminology in Psychiatry" and "Metrazol in Treatment of the Psychoses" respectively. Dr. John L. Haskins presented a motion picture on insulin shock treatment in dementia praecox.——Dr. Cyril N. H. Long, Sterling professor of physiologic chemistry, Yale University School of Medicine, New Haven, presented a series of lectures as the guest of the Portland Academy of Medicine May 4-6. His subjects were: "Effect of Hypophysectomy and Anterior Pituitary Extract on Metabolism"; "The Adrenal Cortex and Carbohydrate Metabolism" and "Role of the Anterior Pituitary in Certain Diseases of Metabolism, Particularly Diabetes Mellitus."——Dr. Joseph Levitin, San Francisco, addressed the Polk-Yamhill-Marion County Medical Society recently on "Ileus, Intussusception and Intestinal Obstruction."

PENNSYLVANIA

Division of Cancer Control.—The establishment of a division of cancer control in the state department of health was recently announced by Dr. John J. Shaw, Harrisburg, secretary of health. Dr. Stanley P. Reimann, Philadelphia, will be chairman and pathologist for the division and Dr. Rufus S. Reeves, Philadelphia, clinician. Addresses were made at the meeting by Drs. Reimann, Shaw and Reeves, Gov. Arthur H. James, and Drs. David W. Thomas, Lock Haven, president of the Medical Society of the State of Pennsylvania; Francis Carter Wood, New York; Ludvig Hektoen and John Collinson Jr., Washington, D. C. A general advisory committee of fifteen physicians and a specialists' consultation committee of eighteen have been appointed.

Philadelphia

Dr. Richards Succeeds Dr. Stengel.—Dr. Alfred N. Richards, professor of pharmacology, University of Pennsylvania School of Medicine and Graduate School of Medicine, has been appointed vice president of the university in charge of medical affairs to succeed the late Dr. Alfred Stengel. Dr. Richards will retain his faculty connections and will also devote part of his time to his research on physiology of the kidney. A native of New York, Dr. Richards was graduated from Yale University in 1897 and took the degree of doctor of philosophy from Columbia University in 1901. He received the honorary degree of doctor of science from the University of Pennsylvania in 1925 and an honorary medical degree in 1932. In addition, he has honorary degrees from Yale and Western Reserve universities and from the University of Edinburgh, Scotland. Dr. Richards was instructor in physiologic chemistry at Columbia from 1898 to 1904 and instructor in pharmacology for the next four years. In 1910 he was appointed professor of pharmacology at the University of Pennsylvania. During the World War he served with the scientific staff of the Medical Research Council of Great Britain and in the later months of the war was in charge of a physiologic laboratory of the A. E. F. in Chaumont, France, studying problems concerning poison gases. Many medals have been conferred on Dr. Richards, including the Kober Medal, the John Scott Medal from the city of Philadelphia, the Gold Medal of the New York Academy of Medicine, the William Wood Gerhard Medal of the Philadelphia Pathological Society, the Keyes Medal of the American Society of Genito-Urinary Surgeons and the Philadelphia Award established by Edward W. Bok for outstanding service to the city.

TEXAS

State Medical Election.—Dr. Preston Hunt, Texarkana, was named president-elect of the State Medical Association of Texas at the annual meeting in San Antonio May 11, and Dr. Leopold H. Reeves, Fort Worth, became president. Dr. Holman Taylor, Fort Worth, was re-elected secretary. The next annual session will be held in Dallas.

Society News.—At a meeting of the El Paso County Medical Society, El Paso, recently, the speakers were Drs. Isadore M. Epstein, on "Immunization in Childhood"; Franklin P. Schuster, "Malignancy of the Middle Ear"; Maurice P. S. Spearman, Jacob Travis Bennett, Wickliffe R. Curtis and Simeon H. Newman, "Personal Experience with Sulfanilamide."——At a meeting of the Dallas County Medical Society,

Dallas, June 8 the speakers were Drs. Samuel A. Shelburne on "Tumors of the Heart"; Elliott Mendenhall, "Bronchiectasis," and Lawrence E. Arnold, "An Attempt to Control Fetal Weight—Preliminary Report."

VIRGINIA

Personal.—Dr. Lee Scott Barksdale, Richmond, has been appointed health officer of Hopewell.——Harvey E. Jordan, Ph.D., professor of histology and embryology, University of Virginia Department of Medicine, Charlottesville, received the "President and Visitors' Research Prizes" of the Virginia chapter of Sigma Xi recently in recognition of his research on blood cell changes during experimental nutritional deficiency anemia.——Dr. Joseph E. Barrett, recently director of the Michigan State Hospital Commission, Lansing, has been appointed clinical director of the Southwestern State Hospital, Marion. Dr. James B. Pettis, Staunton, was appointed clinical director at the Western State Hospital, Staunton, in March. ——Dr. John M. Emmett, Clifton Forge, has been appointed chief surgeon of the Chesapeake and Ohio Railway Company, succeeding Dr. William T. Oppenhimer, Richmond, retired.—— The Danville Academy of Medicine honored Dr. Charles W. Pritchett, Danville, with a testimonial dinner May 9 in recognition of his long service in the community.

WISCONSIN

Society News.—Dr. Albert E. Rector, Appleton, president of the State Medical Society of Wisconsin, addressed the Sheboygan County Medical Society at its annual dinner meeting May 18 at Rocky Knoll Sanitorium, Plymouth, on modern problems in medicine.——Dr. Owen H. Wangensteen, Minneapolis, addressed the Rock County Medical Society, Janesville, May 23, on "Surgical Treatment of Tuberculosis."——The Pierce-St. Croix County Medical Society held a joint meeting with pharmacists of the two counties May 18 in Hudson with Charles H. Rogers, dean, University of Minnesota College of Pharmacy, Minneapolis, as the speaker on "Interprofessional Relationships"

HAWAII

Graduate Lectures.—Dr. William S. Middleton, dean, University of Wisconsin Medical School, Madison, conducted a graduate course for general practitioners at the Queen's Hospital, Honolulu, May 8-17. His subjects included: postoperative pulmonary complications; bronchogenic carcinoma, a challenge in diagnosis and treatment; some clinical problems in allergy; the problem of so-called essential hypertension with suggestions for its management; peripheral vascular disease, differential diagnosis and treatment; the pituitary-gonadal relationships and their practical implications; the role of the liver in certain coagulative problems, and the anemias, their interpretation and treatment. He also conducted a series of clinics at the hospital.

Territorial Election and Meeting.—Dr. William T. Dunn, Lahaina, Maui, was elected president of the Hawaii Territorial Medical Association at its forty-ninth annual meeting in Honolulu May 5-7, succeeding Dr. Harry L. Arnold, Honolulu. Other new officers include: Drs. Clarence W. Trexler, Honolulu; Henry B. Yuen, Hilo; Haliburton McCoy, Puunene, and Tadao Hata, Kapoa, vice presidents; Douglas B. Bell, Honolulu, treasurer; and Francis J. Halford, Honolulu, secretary. The 1940 session will be in Lahaina, probably the first of May. The speakers on the scientific program included:

Dr. William S. Middleton, Madison, Wis., The Treatment of Pneumococcus Pneumonia.
Dr. Rogers Lee Hill, Honolulu, Volkmann's Ischemic Contracture in Hemophilia.
Dr. Frederick H. Foucar, U. S. Army, Analysis of 259 Surgical Cases Coming to Autopsy.
Dr. George M. Clough, Use of Helium.
Dr. Ernestine V. Kandel, Use of Sulfanilamide and Theories Concerning Its Mode of Action.
Dr. Harold F. Moffat, Fundus Lesions in Systemic Disease.
Dr. Henry C. Gotshalk, Actinomycosis in Hawaii.
Dr. Louis H. Roddis, Pearl Harbor, medical corps, U. S. Navy, Botanical Characteristics of Some Pollens of Hawaii in Relation to Allergy.
Dr. William John Holmes, Modern Trends in Cataract Surgery.
Dr. May A. Borquist, Child Health.
Dr. Lucius F. Badger, Epidemiologic Features of Leprosy in Hawaii.
Dr. Ralph B. Cloward, Etiology, Pathology and Surgical Treatment of Low Back Pain and Sciatica.
Dr. Jesse W. Smith, Deep X-Ray Therapy.
Dr. Nils P. Larsen, George P. Pritchard, D.D.S., and Dr. Charles L. Wilbar Jr., Diet in Relation to Tooth Decay.
Dr. Edwin E. McNeil, Hypochondriasis.
Dr. Robert N. Perlstein, Epidemiologic Study of Tuberculous Families in Hawaii.

GENERAL

Figures on Alien Physicians.—Records of the U. S. Department of Labor show that 776 alien physicians entered the United States for permanent residence from July 1 to Dec. 31, 1938, and 324 from January 1 to March 31 of this year. Of the 1938 group the following countries were represented: Czechoslovakia 31; France 16; Germany 520; Great Britain 7; Hungary 17; Italy 30; Switzerland 22; other countries of Europe 51; Canada 45; Cuba 4; Asia 20, and other countries 13.

Incidence of Poliomyelitis Low in 1938.—The U. S. Public Health Service recently reported that the number of cases of poliomyelitis reported during 1938, 1,712, was the lowest since 1915. The highest rate was in Washington, D. C., 4.3 per hundred thousand of population. South Dakota was second with a rate of 4. Nevada reported no cases, New Hampshire and Wyoming one each. There were fifty-seven counties reporting cases in 1938 that had not reported any in the previous five-year period. Figures on the number of deaths were not available at the time of the report.

Special Society Elections.—Dr. Armin V. St. George, New York, was chosen president-elect of the American Society of Clinical Pathologists at the annual meeting in St. Louis and Dr. Leonard W. Larson, Bismarck, N. D., became president. Dr. Charles L. Klenk, St. Louis, was elected vice president and Dr. Alfred S. Giordano, South Bend, Ind., reelected secretary. ——Dr. John H. Peck, Oakdale, Iowa, was named president-elect of the American College of Chest Physicians at the annual meeting in St. Louis in May. Drs. Benjamin Goldberg, Chicago, and J. Winthrop Peabody, Washington, D. C., were elected vice presidents and Dr. Robert B. Homan Jr., El Paso, Texas, secretary. Dr. Ralph C. Matson, Portland, Ore., is president for the coming year.——Dr. Elmer L. Sevringhaus, Madison, Wis., was named president-elect of the Association for the Study of Internal Secretions at the annual meeting in St. Louis in May and Philip E. Smith, Ph.D., New York, became president. Dr. Maximilan A. Goldzieher, New York, was elected vice president and Dr. Eberle Kost Shelton, Los Angeles, was reelected secretary.——Dr. Irvin Abell, Louisville, Ky., was elected president of the American Gastro-Enterological Association at the annual meeting in Atlantic City May 1-2. Drs. Andrew C. Ivy, Chicago, and Russell S. Boles, Philadelphia, were elected vice presidents and Dr. Albert F. R. Andresen, Brooklyn, secretary. The next annual meeting will be in Atlantic City June 10-11, 1940.——Dr. J. Bayard Clark, New York, was elected president of the American Association of Genito-Urinary Surgeons at the annual meeting in Williamsburg, Va., May 24-26; Dr. Montague L. Boyd, Atlanta, was elected vice president and Dr. Charles C. Higgins, Cleveland, secretary.——Dr. Horace Newhart, Minneapolis, was elected president of the American Otological Society at the annual meeting in New York May 22-23, and Dr. Thomas J. Harris, New York, secretary.

Government Services

New Cancer Building Dedicated

The laying of the cornerstone and the dedication of the new National Cancer Institute at Bethesda, Md., took place with appropriate ceremonies June 24. Senator Homer T. Bone, Washington, co-author of the National Cancer Institute Act of 1937, was the principal speaker. The new cancer building is located at the National Institute of Health Center on the Rockville Pike near Bethesda. The 15 acre site was donated by Mr. and Mrs. Luke I. Wilson and adjoins the officers' living quarters and other buildings of the institute. The center will provide facilities for eighty scientists, research technicians and administrative officers. The $750,000 building consists of three floors and two basements and will be fully equipped with up-to-date laboratory apparatus and research materials. It is expected that the unit will be completed in September and at that time the scientists now stationed at Gibbs Memorial Laboratory in Cambridge, Mass., and the staff members who are now located at the old institute building, Twenty-Fifth and E streets, Washington, will be transferred to the new quarters in Bethesda. The work of the institute will be administered by Dr. Lewis R. Thompson, director of the National Institute of Health; Carl Voegtlin, Ph.D., chief of the cancer institute; Dr. Roscoe R. Spencer, executive assistant, and Dr. Ludvig Hektoen, executive director of the National Advisory Cancer Council.

Foreign Letters

PARIS

(From Our Regular Correspondent)

June 12, 1939.

Foreigners in France

The majority of French physicians can be mobilized and will find their place in the army in case of war. This is not a bright outlook, for, during the last war, next to the infantry the medical service showed the greatest death rate. Many physicians are exempted from military service on account of their age, and they together with the women physicians will give their attention to the civil population menaced by aerial warfare. The French law provides for the enlistment of all persons who can be of service to the defense of the country, within the conditions laid down by the military authority; even foreigners residing in France may be enlisted. Recent laws have abolished, as to military service, the privileges foreign physicians formerly held. France is a country of immigration; 380,831 foreigners came to France in 1851; however, this figure includes tourists. The number of immigrants coming to France to earn a living was of little importance up to 1920, but it has been estimated that there are now three and a half million foreigners settled in France. Faivre, in the *Revue médicale de France*, points out that there is no efficacious medical control at the frontiers. About 20 per cent of those admitted to mental hospitals in 1935 were foreigners; more than 10 per cent of the patients admitted to French hospitals are foreigners. Threefold control should be exercised: the first in the country of origin, the second at the frontiers, the third in France during the first years of stay. Immigration, if it increases suddenly, is similar to a massive blood transfusion, for which the donor has to be wisely chosen. It is difficult to maintain a French "race," but there is indisputably a French "nation," the "qualities" of which deteriorate with the admixture of ill adapted foreign blood. In one large jail in Paris, on the average, 30 per cent of the inmates are foreigners, a figure far too large in proportion to the percentage of foreign population: for one French prisoner there are three foreign prisoners. The poor people migrating to France are often of a most backward type, which explains their being diseased, insane or unfit.

War Surgery in Spain

Lardennois, in a lecture before the Union Franco-Italo-Américaine, attempted to point out lessons learned in the Spanish war. The conditions under which the Spanish medical staff worked on both sides were hard and yet it pulled through honorably. About 20 per cent of the men hit in battle die on the field or soon after removal. The rest are menaced not directly by the projectiles but by the complications that arise, especially hemorrhage and infection. It is necessary to act with the greatest speed, especially against the streptococcus. Against gas gangrene, surgical treatment remains the most effective. The bold attempts at primary suture after thorough cleansing of the wound have not been satisfactory. The preservation of quantities of blood before a battle appears to have been well done by the military physicians in Spain. The anesthetic best adapted to war surgery seemed to be evipal soluble (the sodium salt of *n*-methyl-cyclohexamyl-methyl barbituric acid). Organization of the medical department so as to distribute the wounded that they may all find in the shortest time a surgeon to dress their wounds or to operate on them was the most difficult part to regulate in Spain.

Lardennois finished his lecture by discussing the recently proposed procedure of scant dressings under a plaster cover. It consists in rapidly cleansing the wound and enclosing it at once in a plaster dressing, which is removed several weeks later. This occluding plaster is supposed to favor leukocytosis and phagocytosis and provide immobilization; under it the local p_H is supposed to modify itself and the epidermization is supposed to become accelerated. As it is opened toward the second month it contains abundant suppuration, under which the wound is in a fair way of cicatrizing. The Spanish surgeons were satisfied with this method; however, the French surgeons who saw the men discharged from the Spanish hospitals cannot give their approval.

Meeting of Climatologists

The Société de climatologie et d'hydrologie médicales of Paris held a formal meeting in March at which ionization of the air and the symptomatology of gout were the main topics discussed. The latter discussion brought forth much argument, which shows that no agreement has been reached on the exact nature of this polymorphic disease. Cattier pointed out that various influences (soil, smoke, fog or wind) can make the ionization of the air vastly different in adjacent and otherwise similar climates. It is desirable that all climatic stations be able to carry out regularly determinations of the ionization. Uzan pointed out that artificially produced ions differ from natural ions in size, weight, charge, motility and especially in their number.

BERLIN

(From Our Regular Correspondent)

June 1, 1939.

Education of Physicians for Military Service

Physicians of the army, navy and military aeronautics are educated in a special institution which was founded as early as 1795. Since 1895 it has been called the Emperor William Academy. It can point to such distinguished men as Helmholtz, Virchow, Löffler, Nothnagel, Leyden and Behring as its graduates. In 1910 addition was made to the building, providing student quarters and ample room for scientific divisions, laboratories and collections. After the World War the academy had to be closed and the building was used by the department of labor. After Germany asserted its rights to military defense, the Emperor William Academy was reopened Oct. 1, 1934, and given the name Academy of Military Physicians. Now the academy trains also the medical personnel of the navy and aviation in addition to that of the army. It also serves the purposes of scientific research in the military health service. A research staff has been organized with the following divisions: general and military pathology, general and military hygiene, general pharmacology and military toxicology, tropical medicines and testing bureau for alcohol in the blood. It includes a library of 250,000 volumes, regarded as the largest collection of medical books in Europe. In the same building is the medical research bureau of aviation. Students also receive special training that concerns their subsequent activity as military physicians; that is, besides the general medical courses for which they enroll. Like the other medical students in the medical department of the University of Berlin they must attend lecture courses in military hygiene, military pathology, military physiology, military psychology and war surgery. The curriculum requires six months of labor conscription and six months of training in the infantry (they continue regularly to return to their troop in vacation time to make sure of a thorough and permanent training). They likewise receive during vacation different military assignments; e. g., to the army hospitals so they may learn to nurse the sick and wounded, and to a riding and sports division. In their senior year they are assigned during vacation time to clinics and hospitals as assistants.

Every class of students is subject to a staff surgeon, a middle-aged military physician who supervises their life and studies and acts as their counselor. He forms the official connection between the respective class and the commanding officer of the academy, a surgeon general. He is also in close contact with the teaching staff of the medical department in which the students are enrolled.

Before the World War and until the Emperor William Academy was closed after the war, no tuition was charged at the

academy. The students had only to obligate themselves to serve a definite number of years as military physicians. There is still no charge for room and board. Assistance for the purchase of books and pay corresponding to rank are also still offered, but the other expenses connected with his studies, examination and uniform must be borne by the student.

Regimentation of Medical Students

The report on regimentation of medical students (THE JOURNAL, April 8) mentioned the shortening of the curriculum from eleven to ten semesters. The departments concerned have now set up a program, assigning to each semester the lectures and courses planned. Students are not compelled to conduct their studies according to the proposed curriculum but are strongly advised to do so—which is tantamount to compulsion. A curriculum has never heretofore officially been elaborated and published. The curriculum reveals clearly what will be expected of the German physician in the future. The medical student is not obliged to complete his studies at the same university. However, he is now officially advised to spend the last two semesters at the university at which he intends to take his final examinations.

Of interest also is an investigation of the cost of medical studies made officially by the national socialist party in connection with the new curriculum and the reduction of the medical training period. The expenses incurred by medical students are study fees, books, instruments, examination fees and the cost of living. Study fees amount on the average to 210 marks per semester, about 2,100 marks for the complete training. (The value of the mark is about 40 cents.) Books for the first four semesters cost about 120 marks, dissecting case about 20 marks. The fees for the two examinations during the preclinical stage amount to 92 marks. The clinical stage of his training brings increased expenses. The most important books cost 250 marks, instruments (stethoscope, ophthalmoscope, otoscope, reflex hammer) about 50 marks. Fees for the governmental examination reach the sum of 256 marks, for the doctoral examination 250 marks. The expenses for printing the doctoral dissertation amount to about 100 marks unless it is accepted for publication in a periodical, which is rare. A summary of the expenses yields the following totals: study fees for ten semesters 2,100 marks, examinations and so on in the preclinical period 254 marks and in the clinical period 855 marks, total 3,210 marks. Living expenses for the ten semesters vary. A modest allowance requires an expenditure of at least 110 marks a month, a total of 1,100 marks for eleven months. For the five years the minimal living expenses come to 6,000 marks. The utmost minimum for the total expenses, accordingly, is about 9,200 marks. For talented students who conform to the national socialist ideals of "moral, political and intellectual adaptability" there is a possibility of financial support by the student organization of the reich. Such support is exercised by remission of study fees and by grants for living expenses and other special needs (THE JOURNAL January 28, p. 347).

An auxiliary fund of this kind was established on the occasion of Hitler's fiftieth birthday, April 20. A foundation of 1,000,000 marks was set aside for talented students of moderate means as a "gift of the German physicians." From the interest of this foundation, "which is to be increased annually according to needs to 50,000 marks by contributions from the physicians, talented young Germans are to receive assistance in their medical studies, especially those who have by their own effort and ability secured the right to an education apart from the prescribed preparatory course of studies." This foundation, then, is to benefit especially those who, according to the new regulations terminating the freedom of doctoring, may be admitted to medical studies, even without the usual college education, on the basis of special achievements.

AUSTRALIA

(From Our Regular Correspondent)

May 23, 1939.

Health Insurance in Australia Is Dead

As implied in a former letter, national insurance in Australia has retreated still further along its path to oblivion. The prime minister, Mr. Menzies, has officially stated that it is impossible to bring the scheme into operation on September 4, the date to which it was last postponed. Having been so strenuously opposed to the abandonment of the scheme several months ago as to force his resignation from the cabinet, Mr. Menzies no doubt feels it incumbent on him, now that he has been recalled to assume the duties of prime minister, following the death of Mr. Lyons, to attempt further to save the scheme. He has promised to ask parliament to set up a committee of members, with whom will be associated representatives of the medical profession and approved societies and the National Insurance Commission, "to see whether a practical scheme, in which all parties will cheerfully and patriotically cooperate, can be evolved." Appearance, however, are all against the continuance of national insurance. The National Insurance Commission's activities have been largely suspended, the approved societies hover in a state of uncertainty, the royal commission on doctors' remuneration has never been reconstituted since the death of its chairman and has not made a report, and so far there has been inability to arrive at a basis which would ensure cooperation from the medical profession. From this it may reasonably be concluded that national insurance in Australia, as at present conceived, is dead.

Profession Warned by New Zealand Government

National insurance, a much vexed question in Australia, has taken on a serious complexion in New Zealand. The social security act of 1938, which became operative in New Zealand April 1, 1939, makes available to every man, woman and child resident in that country certain benefits, which comprise, first, generous pensions and unemployment insurance, together with medical, hospital and maternity benefits, and the supply of medicine and appliances. Considerable powers have been included in the act to ensure adequate services in some country areas that are sparsely populated or isolated. Supplementary benefits will be introduced as opportunity offers, covering such services as specialist and consultant, radiologic and laboratory, home nursing and domestic, optical and dental. There is immediate provision for the institution of a health education campaign, and the scope of medical research is to be extended. The prime minister, Mr. Savage, has stated that the professional standard of medical men and others giving service has been safeguarded; that care has been taken to ensure that the personal relationship of a doctor with his patient is not disturbed; that all citizens are assured of the right to make a free choice of their doctors, and that every doctor will have an opportunity of participating in the service. Despite these assurances, and after the date on which the act was due to operate, the New Zealand branch of the British Medical Association has decided unanimously that the government's scheme for the provision of medical benefits under the act is inadequate and unacceptable and that its members are unable to cooperate in its administration. The members of the branch, it is officially stated, are solidly in favor of an attitude adopted previously by the association—complete opposition to the present scheme, which offers all the people part or limited medical service as against the association's strongly held view that a free and complete service should be provided only for those unable to provide it for themselves. Of a possible 750, only twenty-two doctors in New Zealand have accepted contracts with the government to provide services under the social security act. In reply to the decision of the British Medical Association branch, the prime minister has stated that the government in introducing this

legislation had complied with the wishes of the people. Last year a general election was won almost entirely on the question of social security, the government being returned with an overwhelming majority. The government, therefore, would make the best arrangements possible to give effect to those wishes. The minister for health in New Zealand has stated that, if the medical profession under the leadership of the British Medical Association is determined to persist in its opposition, the government will have no option but to alter the whole basis of service and proceed reluctantly with the establishment of a state medical service to administer the benefits of the social security act. It was recognized that a state medical service would cause considerable disorganization among the medical profession, but the government wished to make clear at this stage the inevitable result of a policy of noncooperation and opposition.

The waters are troubled. The scheme has officially commenced operation, but deadlock persists between the government and the profession. At present maternity benefits are being provided by twenty-two practitioners and a small number of medical men attached to hospital staffs.

Blood Tests for Paternity Claims

The introduction of blood tests as evidence of parentage in contested affiliation cases has been legally provided for in New South Wales by an amendment to the child welfare bill. The clause inserted in the bill provides that, where a person against whom an affiliation order has been made denies that he is the father of the child and requests a blood test, the magistrate shall direct such a test to be carried out on the alleged father, the mother and the child; that the pathologist nominated to make the test should be a medical practitioner authorized to carry out such blood tests; that if the mother and the child or either of them did not submit to a test the complaint should be dismissed; that where an order for expenses of maintenance was in force and the mother and the child did not submit to a test, the order should be suspended until the direction of the magistrate was complied with, and that if the direction was not complied with within reasonable time the order might be discharged.

MADRID

(From Our Regular Correspondent)

May 25, 1939.

Civil War in Spain

During the late Spanish civil war all official and private positions in Madrid were monopolized by members of the government. In accordance with the Russian procedure, a position of "responsible" was created for the person in full charge of a given office. The nominations to most offices were absurd. In the General Hospital of Madrid, which is one of the best European hospitals, the person appointed as "responsible" was a Mr. Manolo, who had been locksmith to the hospital. He denounced several persons on the staff of the hospital, including physicians. Some were saved by a miracle from the "checas," and five or six were murdered. He ordered the physicians and personnel of the hospital to attend a weekly lecture delivered by himself and to give the communistic salute. The activities of the "responsible" of the San Juan de Dios Hospital were similar. He had been a laborer at the Oporto port and knew but little Spanish.

The communist-anarchist government changed the board of directors of the Colegio de Medicos. (This society is not to be confused with the Facultad de Medicina.) A dermatologist was appointed "Red dictator for the Madrid physicians." He had two ideas: to provide all physicians with a bracelet which gave free passage and prevented detention by the militiamen and to require all physicians to serve at any time they were called. The bracelets given to physicians of the Red political party had seals identifying their wearers as members of the party, whereas those given to the independent physicians had none and the physicians wearing them were several times considered and treated as enemies. The medical profession of Madrid, next to the religious orders, suffered more than any other profession from the cruelty of the Reds. More than 150 physicians belonging to the Colegio de Medicos were murdered, and this number is exclusive of many military and municipal physicians. All physicians of military age who lived in the Red zones had to be enrolled as physicians of military sanitation. Dr. Enrique Lacalle y Pérez was one of these. He worked with enthusiasm and was given two promotions in the ranks of military sanitation. When it was found that he was not a communist he was murdered.

The communist physicians who belonged to the Popular Front were hostile to noncommunist physicians. Those who were in charge of the Beneficencia Provincial in Madrid, to which the San Juan de Dios and General Hospitals belong, met a certain day and resolved to eliminate from the hospitals any physician who was not a sincere communist. With this aim they asked the Diputacion Provincial of Madrid (a body, analogous to the French departmental council, concerned with the administration of hospitals) for the immediate expulsion of sixteen physicians and pharmacists from the hospitals, as well as a large number of interns and other members of the personnel who were regarded as opposed to the government. The members of the Diputacion Provincial gladly gave the order for their immediate expulsion. A few days later several of these physicians were murdered, including, among others, Dr. Villaverde, a neurologist who was a favorite pupil of Cajal; Dr. Sánchez Gómez, director at the department of pediatric surgery in the Beneficencia Provincial; Dr. Maestre Ibáñez and his wife, and Drs. Vergara, Gago, Jordà, Alonso Aycar and Alfredo López. Dr. José Martín Arevalo, who was also a philanthropist, was buried alive after his hands and feet had been cut off. Dr. Nicolas Ortega Jiménez killed his wife and himself while they were being taken to be murdered. Dr. Norberto Reinoso Trelles and his blind young son were also murdered.

The practicing of medicine and surgery was a constant danger. Dr. Udaeta was called to deliver the wife of a militiaman. The woman died from embolism. The husband's group went to Dr. Udaeta's home and murdered his son, a physician 24 years old, and then Dr. Udaeta himself. Dr. Gómez Ulla, general director of public health some years before, had to perform operations on wounded soldiers with the militiamen watching the operations with pistols in their hands. He was jailed for a year and so cruelly treated that now he is seriously ill in a sanatorium. Opinions of physicians in matters of public health meant nothing to the government. In order to vaccinate against typhoid and smallpox in Madrid, it was necessary to resort to the personal influence of some physician who had contact with the anarchists and the communists. Vaccination prevented the outbreak of epidemics that threatened the city, which was crowded and dirty. The physicians in the Red zones tried hard to improve the general conditions of people suffering from hunger and, frequently, from abuse and persecution. Yet the militiamen considered all physicians as being opposed to their political ideas. They were jailed because they certified the existence of disease in a case in which there was disease, because they signed a requisition card for food when there was hunger and because they authorized persons to leave or remain in Madrid according to their condition of health. All physicians to the age of 45 were enrolled as military physicians and were paid according to their rank. Those under suspicion were sent to places from which they could not return, as was the case with Lieutenant Dr. Torrijos. Those over the age of 45 were given work in the civil hospitals or in charitable institutions and their salaries were smaller than those of the female nurses and servants of the hospitals. The physicians generally were friendly to one another and to the

people during the dark days, but there were a few exceptions. The health of the people was bad, as they were surrounded by crowds, dirt, hunger, suffering, fear and the constant sight of murder.

SHORTAGE OF FOOD

Food was obtained with difficulty in Madrid during the last year of the war, being issued through the Red government according to record books containing data as to the number of persons in the family. Each member of the family was allowed approximately 100 Gm. of either lentils or rice and 100 Gm. of bread daily, 100 Gm. of sugar a month and 50 Gm. of olive oil a week. Soap could be obtained every three months, 500 Gm. for the whole family. Some fruit, potatoes and greens could be obtained every two weeks at the market, also according to the allowances showing in the family record book. At Christmas and at New Year there was an allowance of one egg for each person. Coal was provided in the amount of 10 Kg. for each family three times during the war. Milk could be obtained only for the sick, and only half a liter (1 pint) a week. This food was obtained at expensive, almost prohibitive prices. There were long lines of people awaiting their turn to buy food. They called the government "Manda Mas" ("I can do nothing but suffer through you"). Health was greatly impaired by the general conditions. The Madrilenians lost an average of from 20 to 40 Kg. from their normal weight.

PREVALENCE OF DISEASE

As a consequence of the poor general and emotional conditions, many persons became sick and many died. Hemorrhages complicating cancer and pulmonary tuberculosis and cerebral hemorrhages were frequently observed. Most of the febrile diseases became complicated by tuberculosis. Patients with cerebral tuberculoma and visceral tuberculosis were seen more frequently than ever before in Madrid. Decompensated heart diseases followed in the majority of cases a fatal evolution, either because of the diminished resistance of the patient or because the proper drugs, such as digitalis, sparteine and strophanthin, were not available.

The shortage of medicines was so great that no sodium bicarbonate was available in the General Hospital, to mention only one among the many medicines in daily use of which the supply remained exhausted from the beginning of the struggle.

According to Dr. Velasco Pajares, president of the Colegio de Medicos of Madrid, a stubborn epidemic of glossal stomatitis broke out at the beginning of the national movement in March 1937, caused by the poor quality of the bread or by the lack of vitamins. Dr. Planelles, director general of public health, called a meeting of all the physicians practicing in the city, telling them that they were guilty of the unrest showed by the population regarding the hygienic conditions of Madrid and that they were working in behalf of the enemy and ordered that all those ill with glossal stomatitis be directed to the Institute of Nutrition. There they confined themselves to making notations of the treatment employed and to advise a more rational one. This, however, could not be followed, because there were no dietary resources and the institute did not furnish them.

In the spring of 1938, numerous cases of pellagra occurred. All the clinics for nervous cutaneous diseases and the San Juan de Dios Hospital were crowded. Dr. Velasco Pajares, relying on studies made in England, in the complete absence of protein food elements requested that the Institute of Nutrition furnish meat for from fifty to sixty pellagrins given assistance in a municipal clinic, only to be refused. Eighty per cent of the inhabitants of Madrid suffered from edemas, of which some were limited and others grew to enormous anasarcas. In hundreds of cases, neither albumin nor oliguresis nor chlorides were found. The diagnosis seemed to point to a diminution of the viscosity of the blood.

Trophoneurotic upsets were found in almost all persons not enjoying official employment (the latter were the only ones to eat). Alopecia areata, changes in the nails because of the lack of lime and silica and amaurosis occurred because of vitamin deficiency. In contrast with the great sufferings from hunger endured by the inhabitants of Madrid during the three years of the war, many chronically sick persons experienced an improvement in their condition, a phenomenon observed in analogous cases and not new to the medical profession. Hungry patients did not fail to exploit this fact against their physicians and against medicine. This improvement admits of a twofold explanation: 1. Spaniards habitually eat too much. Many foodstuffs basically highly spiced and fatty with acids and esters caused by rancidity were in themselves harmful. All these remained prohibited from the first week of the struggle. 2. Food allergy, susceptibility to certain substances, many of them unknown to the patient, is extraordinarily frequent. These allergies cause disorders such as colitis, modifications of the stomach and of the respiratory apparatus, dermatoses and so on, which medicine tries to combat according to the varied causes. The majority of these changes are included under the head of habitual indispositions, or sickliness.

The epidemic of scabies which lasted from the beginning to the end of the siege of Madrid was terrible because of the frequency and persistence of the disease. Medicines necessary to combat it were lacking. Dr. Velasco Pajares proved that good results were obtained, in the absence of other resources, by the mixture of finely pulverized sulfur with vinegar (the patients bringing the vinegar, since the druggists did not have it). Pediculosis was another plague that took possession of Madrid; lice and bedbugs became masters of the population.

In spite of three winters of crowding, without heat, light and soap, there were no cases of typhus fever or epidemics of influenza. Besides the diseases previously mentioned, the most frequent were malaria, which attacked many soldiers, and syphilis. From the beginning coal was not available for heating houses and homes. In the houses that had window panes the temperature was from 43 to 45 F. during the winter of 1937-1938. In the winters of 1936-1937 and 1938-1939 the temperature within the houses was 2 degrees higher, because these winters were less inclement. In the houses in which the window panes had been broken by a riotous soldiery, the temperature was the same as outdoors. Lack of coal brought with it reduction of electrical energy. Light in the majority of the wards of Madrid was so lacking in power that one could not read at night. Without coal and without electric power, the little that had to be cooked necessitated the use of wood, which was sold at inconceivable prices.

Marriages

GEORGE WASHINGTON PATTERSON, South Ryegate, Vt., to Miss Eleanor Mae Williams of Newbury, June 7.

LESLIE VAN DYKE DILL, Dover, Del., to Miss Catharine Elizabeth Isenhour of Durham, N. C., May 19.

THOMAS MELBOURNE IRWIN, St. Louis, to Miss Margaret Stewart of Jacksonville, Fla., May 20.

ALFRED I. FOLSOM, Dallas, Texas, to Mrs. Erma Hewett Matthews of San Antonio, March 26.

STANLEY W. HOLLENBECK, Milwaukee, to Miss Dorothy Franke of Wauwatosa, Wis., May 6.

WILLIAM LAMAR DOBES, New York, to Miss Sara Le Vert Wilson of Atlanta, Ga., June 12.

WILBUR LEACH DAVIS, Knoxville, Tenn., to Miss Gladys Sue Barr at Maryville, May 27.

CHRISTOPHER B. CARTER to Miss Rosine Hughes, both of Dallas, Texas, April 12.

HOWARD LEE WALKER to Miss Jean Fairbanks Decker, both of New York, May 13.

Deaths

Philip Hoffmann ✦ St. Louis; Missouri Medical College, St. Louis, 1892; professor of orthopedic surgery, St. Louis University School of Medicine; member of the Clinical Orthopedic Society and the American Academy of Orthopedic Surgeons; fellow of the American College of Surgeons; served at various times and in various capacities on the staffs of St. Mary's Hospital, Bethesda Hospital and the Jewish Hospital; aged 68; died, April 21, of coronary occlusion.

John Bernard McAneny ✦ Johnstown, Pa.; Medico-Chirurgical College of Philadelphia, 1896; fellow of the American College of Surgeons; past president and vice president of the Cambria County Medical Society; served at various times and in various capacities on the staffs of the Mercy Hospital and the Memorial Hospital; aged 67; died, March 21, in the Misericordia Hospital, Philadelphia, of carcinoma of the colon and coronary thrombosis.

Albert Livingston Stavely, Lahaska, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1888; member of the Medical Society of the District of Columbia; fellow of the American College of Surgeons; formerly clinical professor of gynecology at the George Washington University School of Medicine, Washington, D. C., and at one time superintendent of the Garfield Hospital, Washington, D. C.; aged 76; died, March 29.

Frederic Gilbert Ritchie, Queens Village, N. Y.; New York Homeopathic Medical College, New York, 1882; fellow of the American College of Surgeons; served during the World War; consulting ophthalmic surgeon to the New York Ophthalmic Hospital; consulting ophthalmologist to the Community Hospital, New York, Grace Hospital, New Haven, Conn., Norwalk Hospital, and Home for the Aged, Norwalk, Conn.; aged 78; died, March 15.

Drew Reid Handley, Edinburg, Texas; Atlanta College of Physicians and Surgeons, 1910; member of the State Medical Association of Texas; county health officer; formerly physician of the Florida State Prison, Jacksonville, Fla., and prison physician at Ocala and Raiford, Fla.; served during the World War; president of the Hidalgo County Tuberculosis Association; aged 55; died suddenly, April 16, in San Antonio, of angina pectoris.

John Milton Scanland ✦ Imola, Calif.; College of Physicians and Surgeons, Baltimore, 1897; member of the American Psychiatric Association; medical director and superintendent of the Napa State Hospital; formerly superintendent of the Agnew State Hospital, Agnew, and the Montana State Hospital, Warm Springs; aged 65; died, March 14, of pleurisy.

Lesser Kauffman ✦ Buffalo; University of Buffalo School of Medicine, 1904; associate professor of neurology at his alma mater; member of the American Psychiatric Association and the Association for Research in Nervous and Mental Diseases; fellow of the American College of Physicians; aged 62; died, March 11, of coronary thrombosis.

Edmund Horace Stevens, Cambridge, Mass.; Harvard University Medical School, Boston, 1867; Civil War veteran; fellow of the American College of Surgeons; member of the New England Surgical Society; consulting surgeon to the Cambridge Hospital; aged 92; died, March 14, of lymphatic leukemia and bronchopneumonia.

Charles Edward McGirk ✦ Philipsburg, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1895; past president of the Clearfield County Medical Society; fellow of the American College of Surgeons; medical director of the McGirk Sanitarium; aged 69; died, March 8, of endoarteritis obliterans, uremia and nephritis.

Frank Austin Walder, Lockport, N. Y.; University of Buffalo School of Medicine, 1914; member of the Medical Society of the State of New York; coroner; served during the World War; on the staff of the Lockport City Hospital; aged 50; died, March 27, of cerebral hemorrhage.

Amos Henry Stevens ✦ Fairmont, W. Va.; Harvard University Medical School, Boston, 1926; formerly secretary of the Marion County Medical Society; fellow of the American College of Physicians; on the staff of the Cook Hospital; aged 39; died, March 12, of chronic nephritis.

Gladwin Anson Woodworth ✦ Austin, Texas; Northwestern University Medical School, Chicago, 1925; member of the Ohio State Medical Association; served during the World War; aged 45; died, March 4, in the Medical and Surgical Memorial Hospital, San Antonio.

Horace Delos Washburn ✦ Beaver, Pa.; Jefferson Medical College of Philadelphia, 1914; on the staffs of the Rochester (Pa.) General Hospital, Beaver Valley General Hospital, New Brighton, and Providence Hospital, Beaver Falls; aged 51; died, March 13, of coronary occlusion.

Albert Bogert Eckerson, Mount Vernon, N. Y.; New York University Medical College, 1896; member of the Medical Society of the State of New York; on the staff of the Mount Vernon Hospital; aged 68; died, March 29, of heart disease, arteriosclerosis and hypertension.

Austin Dallas Chester, Cruger, Miss.; Memphis (Tenn.) Hospital Medical College, 1907; member of the Mississippi State Medical Association; served during the World War; aged 54; died, April 23, in the Veterans Administration Facility, Memphis, Tenn., of pneumonia.

Morriss Henry, Helena, Ark.; Memphis (Tenn.) Hospital Medical College, 1901; member of the Arkansas Medical Society; past president of the Phillips County Medical Society; on the staff of the Helena Hospital; aged 61; died, April 17, of coronary thrombosis.

Roy Dean Byrd, Salem, Ore.; Willamette University Medical Department, Salem, 1906; served during the World War; superintendent of the Oregon Fairview Home; aged 58; died, April 6, in the Salem General Hospital of complications following an appendectomy.

Harry Clement McClain, Hustontown, Pa.; Medico-Chirurgical College of Philadelphia, 1902; member of the Medical Society of the State of Pennsylvania; county medical director; aged 58; died, March 28, as the result of an injury received in a fall.

Jacob Washton, Sarasota, Fla.; University and Bellevue Hospital Medical College, New York, 1913; member of the Medical Society of the State of New York; served during the World War; aged 48; died, March 18, of cerebral hemorrhage.

Joseph Ignatius McLaughlin ✦ Boston; Harvard University Medical School, Boston, 1890; for many years physician to the Massachusetts State Prison Hospital, Charlestown; aged 77; died, March 26, of arteriosclerotic heart disease.

William Harvey Means, Percy, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1900; member of the Medical Society of the State of Pennsylvania; aged 68; died, March 8, of a cerebral hemorrhage following a fall.

John Calvin Walker, Walkerville, Ark.; Memphis (Tenn.) Hospital Medical College, 1904; member of the Arkansas Medical Society; aged 71; died, March 24, of pneumonia following injuries received in an automobile accident.

David Henry Roberts, Utica, N. Y.; Bellevue Hospital Medical College, New York, 1886; past president of the Oneida County Medical Society; aged 79; on the staff of the Faxton Hospital; died, March 31, of bronchopneumonia.

William W. Plummer, Waterbury, Conn.; Howard University College of Medicine, Washington, D. C., 1907; aged 56; died, March 27, of carcinoma of the sigmoid with metastases to local lymph nodes and the liver.

Horace Davenport Dow, Maspeth, N. Y.; University of the City of New York Medical Department, New York, 1891; member of the Medical Society of the State of New York; aged 75; died, March 16, of heart disease.

George E. Harrison, Candler, N. C.; Homeopathic Hospital College, Cleveland, 1883; Chattanooga (Tenn.) Medical College, 1901; aged 81; died, March 22, in Asheville of chronic nephritis and bronchopneumonia.

Franklin Young, Terre Haute, Ind.; Eclectic Medical Institute, Cincinnati, 1890; member of the Indiana State Medical Association; aged 72; died, March 6, in the Union Hospital of arteriosclerotic heart disease.

Robert W. S. Pegram, Canton, N. C.; Baltimore Medical College, 1892; served during the World War; aged 74; died, March 26, in the Veterans Administration Facility, Augusta, Ga., of myocarditis.

Benjamin V. Wilson, Decatur, Ga.; University of Georgia Medical Department, Augusta, 1900; member of the Medical Association of Georgia; aged 62; died, March 19, of coronary occlusion and arteriosclerosis.

Morton Edwin Hart ✦ San Francisco; University of California Medical Department, San Francisco, 1904; on the staff of the Mount Zion Hospital; aged 56; died, March 23, of coronary artery occlusion.

Waclaw J. Wawrzynski ✦ Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1915; on the staff of the Norwegian American Hospital; aged 56; died, March 9, of ruptured gallbladder.

Thomas Lee Aye ✦ Brackenridge, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1905; on the staff of the Allegheny Valley Hospital, Tarentum; aged 61; died, March 18, of heart disease.

Chester R. Brown, San Diego, Calif.; University and Bellevue Hospital Medical College, New York, 1906; aged 63; died, March 27, in the Mercy Hospital of bronchopneumonia and bronchiectasis.

William Kennedy Neely Jr., Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1918; served during the World War; aged 44; died, April 1, of cirrhosis of the liver.

Samuel Case Jones, Rochester, N. Y.; Bellevue Hospital Medical College, New York, 1885; member of the Medical Society of the State of New York; aged 83; died, February 28, of lobar pneumonia.

William Carl Schoenijahn, Brooklyn; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1894; aged 66; died, March 28, in the Methodist Episcopal Hospital.

Robert Obed Rhodes, Los Angeles; Eclectic Medical Institute, Cincinnati, 1895; Kansas City (Mo.) College of Medicine and Surgery, 1917; aged 68; died, March 8, of coronary thrombosis.

Elijah Edward Johnston, Little Rock, Ark.; University of Arkansas School of Medicine, Little Rock, 1910; aged 59; died, March 20, in the Baptist Hospital of nephritis and chronic myocarditis.

George De Witt Wight ✦ Bethel, Conn.; Bellevue Hospital Medical College, New York, 1887; aged 76; died, March 20, in the Danbury (Conn.) Hospital of myocarditis and influenza.

Henry Harvard Helk ✦ Minneapolis; Minneapolis College of Physicians and Surgeons, 1902; formerly on the staff of St. Barnabas Hospital; aged 59; died, March 23, of coronary sclerosis.

Edwin Zugsmith, Pittsburgh; University of Pennsylvania Department of Medicine, Philadelphia, 1896; aged 64; died, March 15, of cerebral hemorrhage and carcinoma of the prostate.

John George Cunningham ✦ Spokane, Wash.; Rush Medical College, Chicago, 1897; on the staff of the Sacred Heart Hospital; aged 66; died, March 27, in Los Angeles of nephritis.

Sherrill Gaither Corpening, Merchantville, N. J.; Jefferson Medical College of Philadelphia, 1921; aged 40; died, April 2, in the Belleview Hospital, Camden, of lobar pneumonia.

James William Felts, Alicia, Ark. (licensed in Arkansas in 1907); member of the Arkansas Medical Society; aged 54; died, April 2, of injuries received in an automobile accident.

Realtus W. Place, Council Bluffs, Iowa; Iowa Eclectic Medical College, the Medical Department of Drake University, Des Moines, 1889; aged 80; died, March 31, of influenza.

Frans Leijonborg ✦ Liberty, Maine; College of Physicians and Surgeons, Boston, 1912; past president of the Knox County Medical Society; aged 66; died, March 30, of pneumonia.

Benjamin Wallace Roden, Haleyville, Ala. (licensed in Alabama in 1889); member of the Medical Association of the State of Alabama; aged 84; died, March 10, of influenza.

Vincent George Ahrens, St. Louis; St. Louis University School of Medicine, 1908; aged 56; died, April 2, in the Josephine Heitkamp Memorial Hospital of pneumonia.

Alexander B. McRae, Perry, Fla.; Atlanta Medical College, 1888; aged 79; died, March 7, in a hospital at Thomasville, Ga., of chronic nephritis, uremia and prostatism.

Leopold Harris, New York; New York University Medical College, 1897; on the staff of the Bronx Maternity and Woman's Hospital; aged 67; died, March 31, of heart disease.

Edward Vester Tiffany, Oakland, Calif.; University of California Medical School, San Francisco, 1894; aged 73; died, March 8, of bronchopneumonia and uremia.

Ella Tatman, Mountain Park, Okla. (licensed in Oklahoma under the Act of 1908); aged 68; died, March 13, in a hospital at Oklahoma City of carcinoma of the bladder.

George P. Strange, Egypt, Ga.; University of Georgia Medical Department, Augusta, 1898; aged 69; died, March 8, of cerebral hemorrhage and arteriosclerosis.

Aural Alva Sandy, Des Moines, Iowa; Keokuk Medical College, College of Physicians and Surgeons, 1901; aged 66; died, March 15, of cerebral hemorrhage.

George F. Tate, Harrisburg, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1893; aged 71; died, March 18, of cerebral hemorrhage.

Sallie Kennedy, Long Beach, Calif.; Sioux City (Iowa) College of Medicine, 1897; aged 72; died, March 17, in St. Mary's Hospital of chronic myocarditis.

Gustavus Charles Dohme ✦ Baltimore; Johns Hopkins University School of Medicine, Baltimore, 1902; aged 62; died, April 1, of cerebral hemorrhage.

Edward McDowell Cass, Utica, Ohio; Starling-Ohio Medical College, Columbus, 1909; served during the World War; aged 52; died, April 8, of pneumonia.

Margarete Darvas Baker, Santa Ana, Calif.; Cornell University Medical College, New York, 1911; aged 52; died, March 22, of pulmonary tuberculosis.

George Granville Southard, Denver, Colo.; Physio-Medical College of Indiana, Indianapolis, 1890; aged 72; died, March 12, of cerebral hemorrhage.

Victor Andrew Tyrasinski, Buffalo; University of Buffalo School of Medicine, 1915; police surgeon; aged 49; died, March 15, of coronary thrombosis.

William W. Fraser, Richmond, Calif.; Bennett Medical College, Chicago, 1872; aged 90; died, March 10, of chronic myocarditis and bronchopneumonia.

Samuel Russell, Macomb, Ill.; Rush Medical College, Chicago, 1881; formerly mayor of Macomb; aged 80; died, March 26, of cerebral hemorrhage.

Christian Nelson ✦ Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1895; aged 76; died, March 28, of influenza and bronchopneumonia.

Harry H. Grosbach, Wauneta, Neb.; Eclectic Medical Institute, Cincinnati, 1885; aged 74; died, March 28, of cerebral thrombosis and arteriosclerosis.

Martin Wesley Lang, Long Beach, Calif.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1888; aged 74; died, March 8.

William Henry Clancy, Burlington, Vt.; University of Vermont College of Medicine, Burlington, 1905; aged 61; died, April 9, of pneumonia.

Vernon D. Thomas ✦ Pittsburgh; Jefferson Medical College of Philadelphia, 1896; aged 67; died, March 5, of arteriosclerotic heart disease.

Daniel William Kramer, Erie, Pa.; Jefferson Medical College of Philadelphia, 1913; aged 47; died, March 14, of pulmonary tuberculosis.

Diran Balak, New York; Universität Leipzig Medizinische Fakultät, Saxony, Germany, 1905; aged 61; died, March 22, of coronary thrombosis.

Oregon W. Reese, Nashville, Tenn.; Vanderbilt University School of Medicine, Nashville, 1890; aged 81; died, March 26, of arteriosclerosis.

Thomas S. Turner, Lebanon, Ind. (licensed in Indiana in 1891); aged 75; died, March 11, of mitral insufficiency and bronchial asthma.

James A. Richmond, Denver; Denver College of Medicine, 1892; aged 73; died, March 17, of bronchopneumonia and cerebral hemorrhage.

William Levi Sears, Hemet, Calif.; Missouri Medical College, St. Louis, 1890; aged 76; died, March 22, of carcinoma of the prostate.

A. J. Lieurance, Neosho Falls, Kan. (licensed in Kansas in 1901); aged 86; died, March 3, of cerebral hemorrhage and arteriosclerosis.

Edwin Cutler Williams ✦ Chicago; Chicago Homeopathic Medical College, 1886; aged 74; died, March 9, of carcinoma of the bladder.

Jerome Thompson, Morrisonville, Ill.; Missouri Medical College, St. Louis, 1878; aged 83; died, March 7, of chronic nephritis.

Charles E. Helm, Quarryville, Pa.; Jefferson Medical College of Philadelphia, 1887; aged 80; died, March 24, of arteriosclerosis.

Elon A. Ormsby ✦ Centerville, Calif.; California Medical College, Oakland, 1896; aged 68; died, March 24, of myocarditis.

Frederick L. Smith, Stanley, Va.; University College of Medicine, Richmond, 1905; aged 60; died, March 23, of heart disease.

Justin H. Burdick, Milton, Wis.; Chicago Medical College, 1877; aged 87; was killed, April 3, in an automobile accident.

John W. Nicolay, Grayville, Ill.; American Medical College, St. Louis, 1899; aged 64; died, April 18, of heart disease.

Bureau of Investigation

BERNARR MACFADDEN FOUNDATION TAKES OVER A SANATORIUM FOR TUBERCULOSIS

In a letter addressed to a New York physician in April 1939, Bernarr Macfadden signs himself Chairman, Loomis Sanatorium. The letter states that "The Loomis Sanatorium at Liberty, New York, for treating tuberculosis, recently closed, will be reopened on May 1st under the financial guarantees made by the Bernarr Macfadden Foundation, a non profit, beneficient organization."

For years Macfadden has suggested to physicians that they send their patients to his institutions. A letter dated Oct. 21, 1907, on the stationary of "The Bernarr Macfadden Health Homes—Two at Physical Culture City, N. J.—Two at Battle Creek, Michigan" included the statement "Every patient sent us by a member of your profession will be given special attention and furthermore one-half of the regular fees charged for treatment and examination will be credited to you and you can return the amount to the patient if so desired."

During Mr. Macfadden's absence in England in 1913, an assistant general manager wrote on the stationery of "Bernarr Macfadden's Healthatorium" in Chicago to a patient in Chewelah, Wash., stating in part: "We have had remarkable success in the treatment of cases similar to yours and therefore see no reason why we could not bring about a change in your condition which would be highly satisfactory to you in every particular."

During the same year the "Macfadden College of Physcultopathy," at the same address in Chicago as the "Healthatorium," was issuing application blanks for home study courses in "physcultopathy" for $100.

A news item from a Missouri newspaper in 1923 noted that Bernarr Macfadden had "signalized the twenty-fifth anniversary of the inauguration of the movement to build a stronger nation by opening . . . a national health center" at Atlantic City, N. J.

In 1927 Bernarr Macfadden, on the stationery of the "American Institute for Physical Education," 1926 Broadway, New York, addressed the secretaries of state and county medical societies and departments of health, calling attention to the aims of his institute, recommending a "Physical Culture Creed."

Since 1929 the American Medical Association has been receiving inquiries about the Physical Culture Hotel at Dansville, N. Y., which was another organization founded by Bernarr Macfadden.

In 1933 Macfadden was addressing physicians on the stationery of the Bernarr Macfadden Foundation, Inc., inviting them to visit the Physical Culture Hotel at his expense and stating that he desired to give physicians and "healing experts of every nature" an opportunity to view at first hand the "extraordinary results obtained from curative physical culture."

Whether or not Mr. Macfadden had anything to do with the following organization is unknown to this Bureau, but on July 25, 1936, the Federal Trade Commission issued the following stipulation:

"The McFadden Institute of Physical Culture, Inc., 903 King St., Wilmington, Del., agrees to discontinue claims that its course in physical culture assures students that they will not have rheumatism, heart trouble, hardening of the arteries or breaking down of the body, and that such courses will make one successful, strong, magnetic and able to overcome any obstacle."

In 1936 advertisements appeared for the Macfadden-Deauville hotel and pleasure spot, Collins Avenue at 67th Street, Miami Beach, Fla. In these it was noted that there were available at this institution "Complete facilities for Bernarr Macfadden's famed Physcultopathic system of health building for those who desire it—a complete Physiotherapy department—spinal kinesotherapy treatments and special food regimens."

In the 1939 letter already mentioned, it is stated that "Doctors, physiotherapists, nurses, specialists in stimulating spinal development, and other employees are needed. We are desirous of securing associates enthusiastically in favor of curing this disease tuberculosis through vitality-building measures which include mountain air, scientifically arranged diet, exercises that do not accelerate breathing, and artificial fever, although diathermy will be used in some cases." This letter concludes: "We would be glad to have your recommendation of those who might like to be associated with this institution under this plan, part time or full time, although applicants must be fully licensed practitioners in New York State."

As a part of the heading on the stationery of the Loomis Sanatorium, the following statement appears: "All Scientifically Approved Modern Medical Measures Combined with Bernarr Macfadden's Successful Dynamic Health Building System."

In the promotional folder of which the letter forms the first page, it is stated that Bernarr Macfadden has been "interested in the treatment of tuberculosis for more than fifty years." It is claimed that he was "threatened with this disease as a boy" and that he "cured himself through physical culture methods, but throughout all these years he has had to fight a tendency toward this terrible complaint." It is stated that "he has acquired invaluable knowledge in handling his own case in various emergencies, not counting the thousands of victims of this complaint with whom he has come in contact through his writings and through personal advice to sufferers."

To claim to be qualified to treat disease by virtue of having cured oneself is an old device used by many "patent medicine" promoters. It remained, however, for a Macfadden organization to acquire a millon dollar sanatorium on a 700 acre tract and to attempt to obtain patients for that institution, at least in part, on the basis of an alleged self-cure. It is interesting to note that even though he has had all this experience in treating himself in emergencies, and though he has given advice to thousands of sufferers in his writings, he still finds it "advisable" to employ those who are fully licensed practitioners in New York for an institution located in the Empire State.

Having acquired such an institution, it remains to obtain patients. The Macfadden Foundation's method of accomplishing this is a little unusual, judging by a telegram received by the Bureau of Investigation from a state public health association ten days after the sanatorium opened. They wired: "Patients in tuberculosis sanatoria being solicited by Bernarr Macfadden's sanatorium some place in New York." Subsequently, material came to the attention of the Bureau which seemed to indicate that an offer of free admission to one individual in each state had been made in an advertisement, and that others who answered the advertisement received offers of special rates. It was noted in a special-offer letter that Dr. James H. Moore, a member of the staff of the Loomis Sanatorium for seventeen years, had been appointed chief-of-staff. Dr. Moore is a member and Fellow of the American Medical Association, and the American Medical Directory states that he specializes in tuberculosis. Regardless of the type of institution which Macfadden will maintain, there still would be no justification for inducing patients to leave sanatoriums where they are receiving excellent attention, in order to become patients at Loomis Sanatorium.

There would be little objection to Macfadden's endowing an institution for the treatment of tuberculosis, if he leaves the treatment of patients solely in the hands of physicians who are fully qualified to treat that disease and who are selected on that basis without reference to their being "enthusiastically in favor" of Macfadden's ideas of treatment.

THE JOURNAL pointed out editorially (Feb. 4, 1939) in reference to a *Liberty* magazine editorial that Macfadden "wants to cure syphilis by fasting followed by an exclusive milk diet" . . . "wants to cure gonorrhea with water treatments" . . . and "apparently thinks an exclusive grape diet will cure cancer." It is only natural to hope, therefore, that he understands tuberculosis better than he comprehends these other diseases. There is no available evidence that he has had any training in medicine or that he has any knowledge of the basic medical sciences which are prerequisites to the study of medicine. It is obvious therefore that he is not qualified to suggest treatments for those suffering from tuberculosis.

Correspondence

NEURITIS OF DIABETES MELLITUS AND AVITAMINOSIS B

To the Editor:—A communication by Dr. James S. McLester in THE JOURNAL, May 27, page 2113, mentions "the neuritis of diabetes mellitus, which Williams and Spies (Vitamin B, and Its Use in Medicine, New York, Macmillan Company, 1938) believe is due to vitamin B_1 deficiency." This seems to imply that Williams and Spies were the first ones to suggest the possible relationship between neuritis of diabetes and vitamin B deficiency. As a matter of fact, in a paper read at the annual session of the American Medical Association at Dallas, Texas, in 1926 (Avitaminosis in the Course of Diabetes, THE JOURNAL, Sept. 18, 1926, p. 901), I expressed the opinion that the neuralgic pains in the course of diabetes mellitus may be due to a disordered metabolism of nerve cells with more extensive degeneration incident to avitaminosis. This opinion was based on careful clinical observations and inquiry into the dietary habits of twenty-two diabetic patients with symptoms of paresthesia, partial loss of knee jerks and neuralgic pains, disclosing the striking feature that sixteen of them consumed food poor in vitamins, such as potato, bread and meat, and but little fresh vegetables, eggs and cream. Focal infection, alcohol, syphilis or tuberculosis as causes of neuralgic pains were ruled out, with the exception of tuberculosis in one case and syphilis in another. In the same paper are described in full the clinical and postmortem examinations of a patient with diabetes mellitus complicated by the neurologic symptoms of avitaminosis B and the eye signs suggestive of avitaminosis A. Moreover, I had given vitamin B concentrate to eight diabetic patients, as described in this paper, for treatment of associated symptoms such as constipation. In short, the relationship between neuritis of diabetes mellitus and avitaminosis B was indicated by me some twelve years prior to the publication by Williams and Spies.

MICHAEL G. WOHL, M.D., Philadelphia.

THE UNITED STATES PHARMACOPEIAL CONVENTION, INC., DECENNIAL PERIOD, 1930-1940 COMMITTEE OF REVISION OF THE UNITED STATES PHARMACOPEIA

To the Editor:—Under the Federal Food, Drug and Cosmetic Act the standards of strength, quality and purity laid down in the Pharmacopeia for the drugs and preparations that it recognizes become the legal standards for such drugs and preparations. As a consequence the manufacturer, the dispensing pharmacist and the physician have a common interest in the Pharmacopeia. The manufacturer is enabled to furnish the pharmacist with officially standardized materials, the pharmacist to dispense, with exactitude, just what the physician desires and the physician to write his prescriptions in simple terms with confidence in what the pharmacist will dispense. Without the Pharmacopeia there would be chaos. Without confidence in its sponsors the situation would be perilous.

The convention for the revision of the Pharmacopeia decides the principles under which the Pharmacopeia is to undergo revision. It also elects the officers of the convention, a board of trustees to manage administrative, legal and financial matters, and a Committee of Revision, all to serve until the next revision convention meets.

The committee of revision is composed of fifty elected members. Seventeen of these are doctors of medicine, representatives of clinical medicine, pharmacology, serology, therapeutics and so on. The other thirty-three members belong to pharmacy and the allied sciences and include representatives of dispensing and manufacturing pharmacy, inorganic and organic chemistry, botany, pharmacognosy, biologic assay and the like.

In the past the Committee of Revision has included men of the highest rank in the several fields. That it may continue so to do it is asked that the various bodies authorized to send delegates to the convention will appoint their full quota of delegates and will select these from among those of their own people whom they know to be informed and at the same time prepared to attend the convention.

WALTER A. BASTEDO, M.D., New York.
President of the U. S. Pharmacopeia Convention, 1930-1940.

THE EFFECTS OF THE REMOVAL OF THE THYMUS

To the Editor:—The inadequate and irrelevant quotations and misinterpretation of our reported data (*Science* **87**:20 [Jan. 7] 1938; *Am. J. Roentgenol.* **39**:263 [Feb.] 1938; THE JOURNAL, January 28, p. 290) on which Hashimoto and Freudenberger have based the major portion of their article in the April 29 issue of THE JOURNAL are so at variance with the actual facts that we feel a rebuttal would not be caviling.

With a single fact evident from their limited research, they have criticized our data, subjected our results to explanation never pertinent and consistently tried to interpret us away from our actual observations. From the data which they present, their article might better have taken the form of one sentence: There were no recognizable changes following thymectomy in male rats 25 days of age. With this statement we would be in complete accord, because the destruction of the thymus by x-rays in rats past 20 days of age showed none of the changes described when the thymus is destroyed in rats 2 days old.

The question of the age of the animal when the thymus is destroyed or removed is the crux of the entire experiment. Hashimoto and Freudenberger take us to task for not quoting Dorothy H. Andersen, and in their turn they quote from her review article (*Physiol. Rev.* **12**:1 [Jan.] 1932) as follows: "From an analysis of this work on thymectomy, we may conclude that thymectomy does not prevent, hasten or delay the arrival of sexual maturity, and it does not prevent the occurrence of normal litters. In other words, aside from the immediate effects of the operative injury, it has not been shown that deprivation of thymus, even in early life, has any effect upon the development and function of the sexual apparatus."

We carefully studied Andersen's original articles (*J. Physiol.* **74**:49 [Jan.] 207 and 212 [Feb.] 1932) and were aware that she had reported on thymectomy in rats 1 day old. But we were unable to find any clear reference to the presence or absence of changes in male animals of the day-old thymectomized series. Indeed, we are still not certain that she studied any of the males of this series. She does conclude (page 49) that:

> 1. Thymectomy does not affect the age or weight at which female rats reach puberty. . . . This is true even if the operation be performed at the age of 1 day.
> 2. Thymectomy does not affect the age at onset of oestrus cycles.
> 3. Thymectomy does not affect the actual or relative weight of the thyroid, adrenal or spleen.
> 4. Thymectomy does not affect the growth, appearance or behavior of young rats, even when the operation is performed at the age of 1 day.

These were results obtained in female rats—results identical with those we reported for female rats.

Andersen's definitely recorded negative results following thymectomy in males were all the result of thymectomy in animals at 21 days of age (page 207—again results identical with those we obtained when we destroyed the thymus by x-rays in animals 20 days or older. (Here is evident the danger inherent in quoting review articles, which cannot give all details and which lead to serious misinterpretation.)

Hashimoto and Freudenberger have objected to our method of comparing results among litter mates within litters. Actually—and our extended experience with a great many rats is responsible for the observation—comparison among litter mates is a truer standard for change than a pooled result. Litters 18 and 19, which were used for illustration, were representative of the changes observed in all the litters and were not, as was implied, especially chosen. We did not publish the individual protocols of the thirty-five litters quite simply because we believe no editor would be so obliging as to accept them.

Hashimoto and Freudenberger seem reasonably certain that we could not have avoided the thyroid in our treatment of the thymus in 2 day old rats and interpret the pituitary changes we have described in our temporary physiologic male castrates as castrate pituitaries to be dependent on the effect of stray radiation to the thyroid. They quote many authors on the pituitary changes resulting from removal of the thyroid gland and we agree that thyroidectomy cells of the pituitary may resemble the castrate cells of that organ, although Zeckwer (*Am. J. Path.* **13**:985 [Nov.] 1937) has shown that they are different histologically. Thyroidectomy cells, however, appear in the pituitary only after complete ablation of the thyroid. Is it not remarkable then (1) that thyroid weight per unit body weight was the same in both our treated and control animals? (2) that histologically the thyroids of the treated and control animals were identical in appearance? and (3) that, although we treated males and females alike, all male thyroids were physiologically completely removed in spite of 1 and 2 and that all female thyroids escaped?

Furthermore, in all instances kidney weight per unit body weight was the same for treated animals and their litter mate controls.

Isolde T. Zeckwer, in her studies in rats (*Am. J. Physiol.* **121**:224 [Jan.] 1938), says "It will be seen that after thyroidectomy there are significant reductions in kidney weights, increase in pituitary weights, decrease in adrenal weights in females, decrease in ovarian weights, but that changes in weights of adrenals in the male and of testes are not significant."

Compare these results with our data after destruction of the thymus in 2 day old rats. Based on organ weight-body weight ratios we have seen no reductions in kidney tissue in the treated animals, an increase in the pituitary in males but not in females, an increase in the adrenals in males but not in females, small and inconstant decreases in ovarian weight, and very striking decreases in the weights of the testes of the treated animals.

Our data already given definitely refute the destruction of the thyroid by stray radiation. The further criticism of our x-ray technic states that the extension of the head in our method of fixation of the animal brings "the pituitary gland nearly to the level of the upper reaches of the superior poles of the thyroid gland. It would seem, then, that difficulty would be encountered in shielding not only the thyroid gland but also the hypophysis itself from the large doses of roentgen rays to which the thymus was subjected." Our reported data show a very definite increase in pituitary weight in treated male animals. If we accept the statement of Hashimoto and Freudenberger, we shall be forced to believe that the "large doses of roentgen rays" actually stimulated the pituitary, which is hardly in keeping with accepted roentgen opinion.

Further, we reiterate that the center of the portal for treatment was each day determined by fluoroscopic localization over the center of the thymic shadow.

HARRY SHAY, M.D.
JACOB GERSHON-COHEN, M.D., D.Sc. (MED.)
SAMUEL S. FELS, LL.D., Philadelphia.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

PREMENSTRUAL TENSION AND POSSIBLE AVITAMINOSIS

To the Editor:—**A woman aged 24 has had the following symptoms since delivery of her first child about five months ago. 1. A marked emotional irritability coupled with and exacerbated by pronounced instability of the autonomic nervous system. The latter is indicated by frequent and intense attacks of urticaria, dermographism and heat intolerance or "hot flushes." No factor other than fatigue has been correlated with this. Intervals of extreme chilliness are also probably part of this instability. 2. Neuritic pains, consisting of a burning type of skin paresthesia, sciatic pain down the back of the right thigh and deep pain in the sole of the right foot. These are transitory in nature. 3. Muscle soreness and swelling, most constant in the posterior fold of the right axilla, the thenar eminence of the right hand and the midsole of the right foot. The swelling is visible and palpable, while the tenderness to pressure is extreme. These manifestations last from one to three days and then disappear partially, only to recur at irregular intervals. 4. Dryness of the skin, hair and nails, with brittleness of the latter two. 5. Scanty menses. Previously regular, her menses have since delivery become progressively more scanty, the last being only a slight bloody showing for about one day. There is present an extreme degree of premenstrual tension, which is only mildly alleviated by her menses. The sciatic pain is worse just before menstruation. 6. Headaches which occur at frequent intervals and are intense, giving her the sensation of a "weight pulling her head forward." 7. Variable vision, being sometimes helped by her glasses and at other times made distinctly worse by them. Headaches sometimes accompany symptoms of eye strain. Her pregnancy was marked by a severe attack of hyperemesis gravidarum requiring hospitalization. At intervals later there were skin paresthesis of a burning nature. The baby was born dead, autopsy showing only a slight hypertrophy of the right ventricle. Osmic acid preparations were negative for beriberi. The baby had presumably died from six to eight hours before delivery, as indicated by a mild degree of maceration. I had a blood count made because of the fact that at times there have been petechiae and unexplained bruises. This showed: red blood cells, 4,560,000, hemoglobin 90 per cent, color index 1.0, leukocytes 6,350 with 1 per cent young polymorphonuclears, 44 per cent segmented polymorphonuclears, 41 per cent small lymphocytes, 4 per cent large lymphocytes, 6 per cent monocytes, 3 per cent eosinophils and 1 per cent basophils. The platelet count was 169,000 per cubic millimeter. Urinalyses have been repeatedly negative. The patient has a chronic sinusitis and amygdalitis for which she is being treated, the otorhinolaryngologist not feeling that her condition warrants a tonsillectomy at this time. An infection in the episiotomy after being drained about four weeks post partum seems still to be smouldering, as evidenced by tenderness and swelling without fluctuation. Any slight cut becomes extremely painful and inflamed, so that her general resistance to infection of any sort appears to be poor. My therapy has been as follows: cod liver oil daily; vitamin B (orally and parenterally), which gives temporary relief of her neuritic pains; dicalcium phosphate, which helps the brittleness of her nails, only to have a return when discontinued; desiccated thyroid 1½ grain (0.1 Gm.) a day, which seems to have helped her dry hair and skin but has not affected her menses or nervous symptoms. In the past week I have started estrogenic substance (amniotin) 10,000 units parenterally every other day. This is since her last menstrual period and so the effect on her menses is not known, but a slight vaginal discharge (nonspecific and nonpurulent) seems to have increased. Her nervous symptoms have not responded in any degree, though of course hardly enough time has been given yet. Please advise as to etiology and therapy.**

M.D., California.

ANSWER.—It is doubtful whether any single disturbance can account for the various and bizarre symptoms and manifestations in this case. In certain respects the patient appears to be suffering from a vitamin B_1 deficiency. It is well known that there may develop in pregnancy, associated with persistent vomiting, a type of polyneuritis which is explained on a basis of vitamin B_1 deficiency and which responds to thiamin therapy. In this regard the neuritis, paresthesias, muscle pain and soreness are consistent with this diagnosis. Menstrual disturbances are also seen in this type of avitaminosis. However, there is evidence of some type of glandular dysfunction—hot flashes, heat intolerance and emotional instability, which signify ovarian failure. This, however, seems paradoxical in view of the patient's "premenstrual tension," which is assumed by some authorities to be due to an excessive amount of estrogenic substance in the blood. It is obvious that ovarian failure and excessive elaboration of estrogen are incompatible states. Another condition must be considered in this case. Cushing's disease (pituitary basophilism) or adrenal cortical hyperfunction will often result in somewhat similar symptoms, such as cutaneous changes, muscle pains, emotional instability and menstrual disturbances. Usually associated with these conditions, however,

are hypertension, sudden increase in adipose deposition, headaches with visual disturbances and cardiovascular changes.

It is recommended that a complete neurologic examination be done to determine the possibility of polyneuritis or a pituitary tumor. As an aid to diagnosis it is also recommended that thiamin chloride be administered parenterally in doses of from 50 to 100 mg. a day for a week or more in order to eliminate the question of B_1 avitaminosis.

Therapy cannot be recommended until a definite diagnosis has been made. If premenstrual tension is found to be the main factor in the patient's distressing symptoms, it is advisable to administer progesterone in the second two weeks of the menstrual period, while estrogenic therapy is indicated in ovarian failure.

SODIUM AMYTAL AS CAUSE OF DEATH

To the Editor:—**The following questions are being asked in order to help determine the cause of death of a patient: 1. In death from sodium amytal poisoning is an examination of the stomach sufficient to determine whether or not death was caused by this compound? 2. If the patient died from taking 20 grains (1.3 Gm.) of sodium amytal, would this compound remain unchanged in the body some time after death and would one be able to discover it by proper analysis? In what organs would it most likely be found? Do oxidation and resulting destruction of this compound take place after death? 3. Is any amount of this compound excreted unchanged in the urine? 4. Is it reasonable to suppose that sodium amytal in a sufficient dose to kill would produce death (taken orally) within as short a time as four hours?**

M.D., Minnesota.

ANSWER.—1. It is never possible on the basis of the analysis of stomach contents to state definitely that death resulted from poison found therein. The poison in the stomach is only potentially toxic; death results only from the poison that has been absorbed from the gastrointestinal tract.

2. Following death from the ingestion of sodium amytal, the material remaining unabsorbed in the stomach would still be identifiable for a reasonable length of time after death. One might expect to isolate small amounts of amytal from the liver, kidney, brain and blood, but the drug itself is destroyed in the body through hydrolysis and oxidation. This destruction continues after death, particularly during the process of putrefaction. As a result of this decomposition the degradation products extracted from liver, kidney, brain and blood are amorphous gums and not specifically identifiable.

3. Amytal is not excreted unchanged in the urine. One may find gummy degradation products of amytal in the urine but not unchanged amytal itself (Shonle, H. A.; Keltch, A. K.; Kempf, G. F., and Swanson, E. E.: *J. Pharmacol. & Exper. Therap.* **49**:393 [Dec.] 1933).

4. If the amount of sodium amytal taken was just sufficient to kill, one would not expect death to result as soon as four hours after the ingestion. However, if a person took an exceedingly large dose of sodium amytal it is possible that survival would not be longer than the four hour period.

STEALING IN CHILDHOOD

To the Editor:—**A boy more than 6 years of age has repeatedly appropriated toys and playthings of others and then has originated most ingenious explanations, often conflicting one with the other. 1. What guide book for parents is recommended in such cases? 2. Is there cause for anxiety at the age stated when the child is unusually attractive and even precocious? 3. Give outline of methods for correction of such faults and for establishing ethical and moral control at that age.**

M.D., Alabama.

ANSWER.—1. The following reference guide books are recommended for the parents:

Thom, Douglas: Everyday Problems of the Everyday Child, New York, D. Appleton & Co., 1931.
Are You Training Your Child to Be Happy? Publication 202, U. S. Children's Bureau, 1934.
The Child from One to Six: His Care and Training, Publication 30, U. S. Dept. of Labor, Children's Bureau, 1934.
Child Management, Publication 143, U. S. Children's Bureau, 1928.

2. There is no cause for anxiety when a child who steals is attractive and mentally alert. Stealing is not at all an uncommon behavior problem in childhood and requires sympathetic individual handling of the child. One may distinguish several forms of stealing in childhood. It may be intelligent stealing when, in a careful way, the child appropriates things he badly wants or needs so as not to lead to immediate discovery. Other children do unintelligent stealing and take things with little or no caution. Often stealing may be the result of persuasion by an older child. In group stealing it is important to know whether the child is the leader (motivator) or merely a follower. Children steal a great variety of objects but money is most frequently taken, especially at home. Stealing, like lying, does not occur in infancy. The infant only slowly learns the meaning of personal property and ownership. At first children believe that everything belongs to adults because the child is first given things by adults. Later he learns that the approval or disapproval of the parents, not a clear knowledge of ownership, is the guiding principle of right or wrong in this regard. It is only later that the child learns what is his own and what belongs to others. Wise parents give a child a sense of his own property rights, i. e. his toys, clothes, and so on, so that he may by analogy learn to respect the property of others. Resistance and obstinacy, if improperly managed, may result in stealing as a form of self assertion. Older children who are in the habit of getting everything they want often steal to satisfy the desire for possession. Stealing may occasionally be an expression of lax social standards in the home. Some children steal to gain attention of their parents or admiration of their playmates. Jealousy is often at the root of stealing, particularly when parents are unfair in giving one child less attention or fewer gifts than another.

3. Complete common sense knowledge of the child's personality, environment and intelligence level is the best guide to evolving a therapeutic plan. By far the largest number of children steal because of environmental disturbances. Occasionally mentally retarded children will pilfer objects, but in these instances misbehavior is caused by insufficient training or difficulty in establishing effective training.

It is best to interview the child alone, gain his confidence in a friendly, kindly manner and talk over his problems with him. He should be given a Binet-Simon intelligence test to determine his mental ability and age. Later the mother and father should be interviewed separately and their aspect of the problem evaluated concerning the stresses and strains of the domestic environment.

A small environmental modification can almost always produce the desired therapeutic effect.

HEAVY PIGMENTED BREASTS

To the Editor:—**A young married woman who is not pregnant has breasts which have become heavy, pigmented and painful and which yield colostrum. She is 27 years old and had one normal child four years ago. In that pregnancy the breasts developed normally and became active during the last few weeks. Six months ago there was a miscarriage. The periods have always been normal and lasted four days with little pain and no excessive flow. The menstruation is just the same now and arrived on time this week. The present change in the breasts goes back three months, when she began to note pain such as most women do just before the monthly periods. This pain was worse just before the flow came on and was slightly relieved during the period. However, during the past two months the pain has continued all the time between the stages of her menstruation. She has been given massive doses of antuitrin-S and after two weeks of that medication by hypodermic injection she was changed to Armour's anterior pituitary liquid with hypodermic injections every other day of as much as 2 cc. Up until the employment of pituitary liquid preparation there was no colostrum. Today there is a negative Friedman test and pelvic examination and consultation give negative results for pregnancy. The basal metabolic rate is plus 9.**

Barnie R. Baker, M.D., Charleston, S. C.

ANSWER.—Growth and branching of the mammary gland trees, with possibly slight stimulation of the alveoli, are due to the action of estrogenic hormones, which are produced each month by the developing follicle and the corpus luteum of the ovary. Progesterone secreted by the corpus luteum in the presence of estrin causes development of the alveoli to a condition resembling that found during the first fifteen days of pregnancy. Each month the ducts and acinae are stimulated, which may be painful in some women, and with the retrogression of the corpus luteum and the rather sudden decrease in amount of estrogen and progesterone there may be some desquamation of epithelial cells lining the ducts, which may become distended and give rise to diffuse aching and some nodularity.

The breasts have become heavy. There is no mention of the possibility of mild obesity, which has a predilection for the breasts but it can result from stimulation. The pigmentation probably refers to the areolar areas, which may be due to estrogenic and progesterone stimulation.

The patient was given massive doses of antuitrin-S, which of course is not the true anterior pituitary gonadotropic hormone but is a product from the placenta. She was then given Armour's anterior pituitary extract, since which time there has been colostrum in the breasts. The colostrum might possibly be due to the presence of lactogenic hormone in the anterior pituitary extract given.

It is well that an effort was made to rule out pregnancy, but the possibility of extra-uterine pregnancy might be kept in mind a short while longer. The patient needs further observation. With the present information no one can definitely answer all these problems and any suggestions for treatment are conjectural.

EFFECTS OF ETHYLENE DICHLORIDE VAPORS

To the Editor:—**Recently I have been called on to treat employees of a manufacturing plant for severe nausea and vomiting after exposure to ethylene dichloride vapors. I would appreciate any information with regard to the mechanism of this gas in producing nausea and vomiting. Are there more severe forms of acute poisoning and is there any possibility of chronic poisoning? Any suggestions as to prophylaxis and treatment will be appreciated.**

M.D., Maryland.

ANSWER.—Wherever an exposure to ethylene dichloride vapors is provided, severe nausea and vomiting are the chief manifestations of toxic action. In the older literature ethylene dichloride is commonly rated as being from two to three times as toxic as carbon tetrachloride. More recent work casts doubt on these figures, so that ethylene dichloride is now regarded as of about the same order of toxicity as trichlorethylene. The mechanism of the production of nausea and vomiting is not clearly established. In addition to nausea and vomiting there may be evidence of irritation of the nose and eyes, dizziness, ataxia, fatty degeneration of the liver, nephritis and perivascular hemorrhages of the brain.

A good article on ethylene dichloride and its effects, entitled Toxicity of Industrial Organic Solvents, appeared in Report No. 80 of the British Medical Research Council, 1937. According to this report "A case of acute, but not very severe, symptoms after exposure to the vapor of dichloroethane was reported to the Home Office in 1932. The subject, who was employed in a dye works fitting a coil in a glycol plant, complained of vomiting, diarrhea, giddiness and drowsiness, with slight breathlessness after recovery from the attack. No chronic symptoms arising from prolonged exposure to ethylene dichloride have been reported, but Carozzi (*Rev. Path. Physiol. Trav.* vol. 12, p. 138) states that when trichloroethylene is mixed with dichloroethane . . . giddiness, trembling of the hands, disturbances of cardiac activity, somnolence and headache, only improved after changing the solvent," may occur.

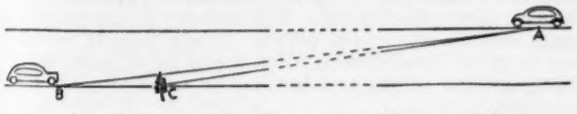
Somewhat related articles are that by A. O. Gettler and Henry Siegel entitled Isolation from Human Tissues of Easily Volatile Organic Liquids and Their Identification (*Arch. Path.* **19**:208 [Feb.] 1935) and that by W. P. Yant and B. G. H. Thomas entitled Toxic Effects of Ethylene Dibromide (*Pub. Health Rep.* **42**:370 [Feb. 11] 1927).

A VISUAL ILLUSION

To the Editor:—**A few years ago I observed a phenomenon the explanation of which appeared at first to be simple. However, after some thought and after asking for help from a professor of "Caltech" as well as a technician of an optical company, without any assured result, I am applying to you for clarification. The problem is simply this: If you park by the roadside and watch the automobiles approach you on the opposite side of the road by means of a powerful field glass, you will find that any car approaching at 45 miles an hour appears, through the glasses, to be crawling along at about 10 miles an hour. There seems to be some relation between time and space and our perceptive sense, and I am unable to get to the bottom of it. I thought I was growing old and stupid until I inquired of a few competent scientists, who were not only unaware of the fact of this phenomenon but were quite unable to furnish the answer. Possibly the fact that the automobile is kept sharply in focus and the surrounding scenery is not quite so sharply in focus may have some influence, but I do not think so.**

Cecil E. Reynolds, M.D., Glendale, Calif.

ANSWER.—When riding in an automobile, speed is mentally estimated by the time relationship of passing a fixed object, whereas the mental estimation of speed of an approaching automobile is determined by the time space element between the car and a fixed object alongside the road. Refer to the accompanying sketch. A passenger in automobile *B* estimates the speed at which he is traveling by the time required in passing the tree (*C*). An observer in car *A* estimates the speed of car *B* by the time space relationship between car *B* and the tree.



A, parked automobile; *B*, car approaching tree (*C*).

If the observer in car *A* uses a field glass of x power, the distance between car *B* and the tree is reduced to the actual distance divided by the power of the field glass. Thus the space between car *B* and the tree seems to be reduced to $BC \div x$.

Refer again to the sketch and insert figures for these distances and speeds:

Let distance *AB* be 1,000 feet.

Let distance *BC* be one seventh of that or, roughly, 133 feet.

A car going 45 miles an hour travels 66 feet a second, thus covering distance *BC* in two seconds.

A car going 10 miles an hour travels 14.6 feet a second, thus covering distance *BC* in 9.8 seconds or, roughly, ten seconds.

When viewed through an $8\times$ field glass, distance *BC* appears to be $133 \div 8$, or 16.6 feet.

Consequently car *B* travels what appears to be 16.6 feet $\times$ 2, or 33 feet, in the two seconds that it actually requires to go from *B* to *C* at 45 miles an hour; 16.6 feet a second is at the rate of 11.3 miles an hour, which is a fairly close estimate on the part of the inquirer.

To recapitulate, the apparent decrease in speed is due to the apparent decrease in distance covered in a given time when seen under magnification. This all applies only to cars coming head on. When viewed at an angle, the decrease in speed is less marked, and the greater the angle up to 90 degrees the less is the distortion in the estimation of the speed.

PTYALORRHEA AND PREGNANCY

To the Editor:—**A patient after each pregnancy suffers with increased salivation, usually lasting several weeks after delivery. With her last child she has had increased salivation for more than six months. What is the assumed pathologic disorder and what treatment should be instituted for such a condition?**

M.D., California.

ANSWER.—Unfortunately the cause of increased salivation either during pregnancy or after delivery is not known in most cases. Occasionally the toxemias of pregnancy are responsible. In most cases the treatment is empiric and most unsatisfactory. Sedatives such as sodium bromide and phenobarbital should be tried because sometimes they are helpful. Likewise a milk diet may be of benefit, especially in women who have toxemias of pregnancy. An examination should be made of the fluid that is excreted to make certain that it is saliva. Stander mentions the case of John G. Murray Jr., whose patient passed nearly a liter of fluid every day. Chemical examination revealed that the fluid had an acid reaction, which was due to the presence of hydrochloric acid in the same proportion as in gastric juice.

SERORESISTANT SYPHILIS

To the Editor:—**A man aged 40, 6 feet (183 cm.) tall, weighing 220 pounds (99 Kg.), married at 21, the father of three children 18, 16 and 14 years of age, a civil engineer, does not know how he was ever exposed to syphilis. He never had illicit relations but in the fall of 1934 suffered somewhat from fatigue in the legs and eyes and consulted a physician. A general examination showed a 4 plus Wassermann reaction. A later spinal fluid test showed up as a 2 plus. His wife and children are negative to these tests. For four and one-half years the patient has been under almost continuous treatment. Tryparsamide, neoarsphenamine, arsphenamine, bismuth compounds, mercury rubs and potassium iodide have all been used liberally. He had eighty tryparsamide treatments. Many of his arsenical treatments have been of 0.9 Gm. A week ago I submitted his blood for test and it came back 3 plus Kahn. His pupil and patellar reflexes are normal. He seems in excellent health in spite of long treatments. What should be the further course of action? There is no history of any initial lesion. Is there a possibility of the blood and spinal tests being misleading? He is interested now in trying heat treatment. Any suggestions that you can give me will be greatly appreciated.**

M.D., Washington.

ANSWER.—If this patient has had regular treatment in the amount described over such a period without serologic response, his condition would fall in the category of asymptomatic seroresistant (or Wassermann fast) syphilis. The significance of the initial two plus Wassermann reaction in the spinal fluid is difficult to evaluate when the duration of the disease is unknown and no symptoms are present. Even though there has been no apparent evidence of progression of the disease while under observation, such a patient whose blood reaction did not respond to treatment should have the most thorough type of medical investigation to rule out the possibility of a deep seated active focus. This would mean, so far as the cardiovascular system is concerned, fluoroscopic, roentgenographic and electrocardiographic studies in addition to the usual physical examination, and so far as the central nervous system is concerned a repetition of the spinal fluid test. If late lesions are discovered by these special tests, the treatment must proceed accordingly. For purposes of complete evaluation of the type of involvement of the central nervous system, should such be present, the spinal fluid should be submitted not only to serologic testing for syphilis but also to cell count, protein determination and colloidal mastic (or gold) tests. If a spinal fluid definitely positive for syphilis of the central nervous system is obtained at this time, some form of spinal therapy, such as fever treatment, is indicated in

an individual of this age, provided his general physical condition will permit. In the absence of any definite visceral or central nervous system involvement, however, the patient may be placed on a rest interval with yearly observation, preferably for life, and no additional treatment other than perhaps a course of eight to twelve weeks of bismuth therapy once a year for the next three to five years.

PROBABLE ULCER DIATHESIS

To the Editor:—A white woman aged 37 developed signs of a duodenal ulcer of the perforating type five years ago. This was verified by x-ray examination. She was put on a modified Sippy diet and treated expectantly. In spite of rigid adherence to this regimen the patient had a perforation six months later. A laparotomy was performed, which revealed a duodenal ulcer, a diverticulum and numerous perforations. A partial resection of stomach and 5 inches of duodenum was performed. The patient was placed on a milk and cream diet with a colloidal suspension of aluminum hydroxide. In spite of this the pain continued and eighteen months later the patient had a severe hemorrhage. Her condition was such that several blood transfusions had to be administered. After subsidence of this hemorrhage she again adhered to a rigid medical regimen but, in spite of this, perforation occurred again six months later. Two months ago she suffered another hemorrhage. Roentgenograms within the past year made by a competent roentgenologist did not show any visible filling defects. The consensus was that in spite of the negative roentgenograms she must have an ulceration of the jejunum. Her Kahn and Wassermann reactions are negative. What further procedure should be employed on this case? What is the present status of larostidin? Would it be effective in this case?

M.D., Kentucky.

ANSWER.—This patient probably has an ulcer diathesis. The question is raised whether or not sufficiently radical surgery was done at the outset and, further, how any one could resect 5 inches of a duodenum without possibly taking off the ampulla of Vater. Are there any possible foci of infection which might be a factor in the recurrence of the symptoms? Have sensitization tests been done on the patient for a possible allergic factor? If these are negative and there is no other etiologic factor for the recurrence of these ulcers, a more radical resection might be done, possibly with the resection on the left vagus nerve. The status of larostidin at the present time is debatable. It is doubted whether it would be effective in this case.

OVARIES, ESTROGENS AND LIBIDO

To the Editor:—I have had a few women castrates, two in particular, whose sexual life was not influenced by the removal of their ovaries. Their sexual urge, even after the time of their menopause, seemed unimpaired. The fact that both ovaries had been removed was substantiated by the permanent amenorrhea which followed their operative procedures. What chance, if any, has a woman castrate of regaining her sexual vigor by the use of theelin and allied substances after castration? How much may be expected from gonadotropic substances given to a faltering male? Is it considered possible for a woman to have a normal sexual impulse and experience regular orgasms despite the absence of both ovaries?

M.D., Minnesota.

ANSWER.—The first two questions may be answered together. Whereas many women lose their libido after the change of life, a large proportion of them retain their sex desires after the menopause. Furthermore, a few women who were more or less frigid during their reproductive years experience libido after the change of life.

It is not known to what extent the ovaries are concerned in the development and maintenance of the sex urge, but it is certain that they are not the dominant factors. The psyche is undoubtedly much more important in the control of the libido. Therefore, removal of both ovaries in women who have been experiencing normal sex desires and reactions usually does not interfere with this part of their lives. Of course if the affection for the husband is gone there will be a waning of the sex desire, but this may also occur in women who are in the midst of their reproductive life. A considerable proportion of young women who menstruate regularly have no libido at all. The psyche and the technic of coitus have a great deal to do with this.

Estrogenic preparations occasionally stimulate sex desires in the female castrate but this is by no means a regular occurrence. Neither gonadotropic nor testicular substance has been shown conclusively to exert a beneficial effect on the man who is losing his potency. Neither is there any significant aphrodisiacal effect in the normal man with these substances. It must be emphasized that the use of glandular substances for the purpose of stimulating sex urge is at present highly speculative and the wise practitioner will refrain from prescribing them in these conditions until a great deal more is learned about them and their undesirable side effects.

DYES FOR MUSKRAT FUR

To the Editor:—Can you tell me what dyes are used in the dyeing of muskrat fur into so-called mink dyed muskrat? Where can I purchase some of the dye for patch tests?

M.D., New York.

ANSWER.—The dyes used in converting muskrat skins into "mink" or "mink dyed" muskrat are usually paraphylenediamine, para-aminophenol and metatoluenediamine; pyrogallic acid is sometimes added. These are combined in different proportions according to the color desired, the type and the condition of skin and various other factors. Every fur dyer with a plant of any size (even some small ones) has his own formula. The large fur dyeing plants have chemists who study and experiment constantly to find more stable or distinctive or more beautiful colors.

Any of these materials may be purchased from the Nyanza Color and Chemical Company, 215 Water Street, New York, or from Joseph H. Lowenstein & Sons, Inc., Morgan Avenue and Withers Street, Brooklyn. These firms specialize in fur dyes. The Nyanza Chemical Company has a branch at 549 West Randolph Street, Chicago.

It is suggested that for patch tests a dyed and also an undyed skin be used as well as the dyestuffs, because the combination of the chemicals with the hair or the pelt may possibly cause a reaction different from that caused by dyes alone or by furs alone. The skins may be bought from any dealer in furs or skins.

CYSTITIS, TRIGONITIS AND URETHRITIS

To the Editor:—A woman with frequent burning and pain on urination has evidence of pus and blood in the urine but is always relieved with a course of sulfanilamide for three or four days. After a few weeks the culture showed diplococcus gram positive catarrhalis 90 per cent, short rod bacilli colon type 10 per cent. What is the significance of this and the treatment suggested?

M.D., Ohio.

ANSWER.—The symptoms described are typical of acute attacks of basal cystitis, trigonitis and urethritis of a nonspecific nature. The fact that this is temporarily relieved by sulfanilamide further confirms this suspicion. The finding of organisms in the urine may mean that these are the responsible organisms or it may be contamination from the vagina. This observation is of absolutely no consequence unless the specimen examined is obtained by catheterization.

Urethral dilations are suggested, beginning with sounds that fit the urethra comfortably at this time and gradually increasing these sounds at intervals of a week until a maximum of at least 30 F. has been obtained. After each dilation the bladder should be emptied by catheter and instilled with 30 cc. of 5 per cent mild protein silver or a similar solution. The combination of this treatment with a short course of sulfanilamide by mouth will probably relieve this situation permanently, provided there is no immediate adjacent focus that may be responsible for reinfections. Chronic endocervicitis is frequently responsible for such conditions and therefore the cervix should be carefully investigated and treated if indicated.

LAXATIVE TO ACCOMPANY SULFANILAMIDE

To the Editor:—What cathartics can be safely given to a patient who is taking sulfanilamide? Also what drugs can be taken for the relief of pain while taking this medicine? I have given codeine without apparent ill effect.

M.D., Illinois.

ANSWER.—As far as evidence is available, laxatives such as phenolphthalein, fluidextract of cascara, magnesia magma or liquid petrolatum may be prescribed concurrently for patients who are taking sulfanilamide. It is best not to give more drastic purges such as magnesium sulfate. If any drug is indicated it must be given concurrently. For the relief of pain, morphine sulfate, codeine sulfate and barbital or its derivatives may be prescribed.

POTASSIUM IN LIVER EXTRACTS—CHEMISTRY OF ERYTHROCYTES

To the Editor:—1. What part, if any, does potassium, as demonstrated in many liver extracts, play in pernicious anemia? 2. What chemical individuality is present in the red cells of pernicious anemia which differentiates them from the red cells of the normal person?

Charles F. Dewitz, M.D., Buffalo.

ANSWER.—1. Actively potent liver extracts without a trace of potassium have been produced. If potassium plays a part in pernicious anemia it is, up to the present time, unknown.

2. No chemical individuality has as yet been demonstrated in the red blood cells of the blood of persons with pernicious anemia.

Medical Examinations and Licensure

COMING EXAMINATIONS

NATIONAL BOARD OF MEDICAL EXAMINERS SPECIAL BOARDS

Examinations of the National Board of Medical Examiners and Special Boards were published in THE JOURNAL, July 1, page 84.

STATE AND TERRITORIAL BOARDS

CALIFORNIA: *Written examinations.* San Francisco, July 10-13, Los Angeles, Aug. 7-10, and Sacramento, Oct. 16-19. *Oral examinations* (required when reciprocity application is based on a state certificate or license issued ten or more years before filing application in California), Los Angeles, August 7, and San Francisco, Nov. 15. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento.

COLORADO. Denver, July 10-12. Sec., Dr. Harvey W. Snyder, 831 Republic Bldg., Denver.

CONNECTICUT: *Medical (Regular).* Hartford, July 11-12. *Endorsement.* Hartford, July 25. Sec., Dr. Thomas P. Murdock, 147 W. Main St., Meriden. *Medical (Homeopathic).* Derby, July 11-12. Sec., Dr. Joseph H. Evans, 1488 Chapel St., New Haven.

DELAWARE: Dover, July 11-13. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: Washington, July 10-11. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

HAWAII: Honolulu, July 10-13. Sec., Dr. James A. Morgan, 48 Young Bldg., Honolulu.

IDAHO: Boise, Oct. 3-4. Dir., Bureau of Occupational License, Mr. H. B. Whittlesey, State Capitol Bldg., Boise.

ILLINOIS: Chicago, Oct. 17-19. Superintendent of Registration, Department of Registration and Education, Mr. Homer J. Byrd, Springfield.

IOWA: *Basic Science.* Des Moines, July 11. Dir., Division of Licensure and Registration, Mr. H. W. Grefe, State Department of Health, Capitol Bldg., Des Moines.

MAINE: Augusta, July 11-12. Sec., Board of Registration of Medicine, Dr. Adam P. Leighton, 192 State St., Portland.

MASSACHUSETTS: Boston, July 11-13. Sec., Board of Registration in Medicine, Dr. Stephen Rushmore, 413-F State House, Boston.

MONTANA: *Reciprocity.* Helena, Oct. 2. *Examination.* Helena, Oct. 3-4. Sec., Dr. S. A. Cooney, 216 Power Block, Helena.

NEBRASKA: *Basic Science.* Lincoln, Oct. 3-4. Dir., Bureau of Examining Boards, Mrs. Clark Perkins, 1009 State Capitol Bldg., Lincoln.

NEVADA: *Reciprocity and oral examination.* Carson City, August 7. Sec., Dr. John E. Worden, 311 W. Robinson St., Carson City.

NEW HAMPSHIRE: Concord, Sept. 14-15. Sec., Board of Registration in Medicine, Dr. T. P. Burroughs, State House, Concord.

NEW MEXICO: Santa Fe, Oct. 9-10. Sec., Dr. Le Grand Ward, 135 Sena Plaza, Santa Fe.

OKLAHOMA: Oklahoma City, Dec. 13. Sec., Dr. James D. Osborn, Jr., Frederick.

OREGON: *Basic Science.* Portland, Oct. 28. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.

PUERTO RICO: Santurce, Sept. 5. Sec., Dr. O. Costa Mandry, Box 3854, Santurce.

SOUTH DAKOTA: Rapid City, July 18-19. Director, Medical Licensure, Dr. G. J. Van Heuvelen, State Board of Health, Pierre.

Texas Reciprocity and Endorsement Report

Dr. T. J. Crowe, secretary, Texas State Board of Medical Examiners, reports sixty-five applicants licensed by reciprocity and one applicant licensed by endorsement at the meeting held in Austin, May 7, 1939. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Univ. of Arkansas School of Med.	(1936), (1937), (1938)		Arkansas
College of Medical Evangelists	(1938)		California
University of Colorado School of Medicine	(1925)		Colorado
Yale University School of Medicine	(1932)		Minnesota
Emory University School of Medicine	(1932)		S. Carolina
Loyola University School of Medicine	(1930)		W. Virginia, (1929), (1935) Illinois
Rush Medical College	(1901)		Illinois, (1922) New York, (1932) Ohio, (1934) Minnesota
Indiana University School of Medicine	(1933), (1937)		Indiana
Kentucky School of Medicine	(1903)		Kentucky
University of Louisville School of Medicine	(1931)		Kentucky
Louisiana State University Medical Center	(1937)		Louisiana
Tulane University of Louisiana School of Medicine	(1938)		Tennessee, (1933), (1934), (1936), (1938, 2) Louisiana
Johns Hopkins University School of Medicine	(1929)		Michigan, (1933), (1938, 2) Maryland
Harvard Medical School	(1924)		New York
University of Minnesota College of Medicine and Surgery	(1909), (1935)		Minnesota
St. Louis Univ. School of Medicine	(1924) Illinois, (1931)		Ohio
University of Nebraska College of Medicine	(1938)		Nebraska
Long Island College of Medicine	(1931)		S. Dakota
New York University College of Medicine	(1935, 2)		New York
Duke University School of Medicine	(1933)		Michigan
Ohio State University College of Medicine	(1936)		Ohio
University of Cincinnati College of Medicine	(1934), (1937)		Ohio
University of Oklahoma School of Medicine	(1933)		Alabama, (1926), (1928), (1934), (1935) Oklahoma
University of Pittsburgh School of Medicine	(1936)		Penna.
University of Tennessee College of Medicine	(1936), (1937)		Tennessee
Vanderbilt University School of Medicine	(1937)		Tennessee
Baylor University College of Medicine	(1926)		California
Medical College of Virginia	(1933)		Virginia
Osteopaths*	California, Michigan, 3, Ohio, 2, Oklahoma, 6		

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
University of Kansas School of Medicine	(1929)		U. S. Navy

* Licensed to practice medicine and surgery.

New Mexico April Report

Dr. Le Grand Ward, secretary, New Mexico Board of Medical Examiners, reports the written examination held at Santa Fe, April 10-11, 1939. The examination covered thirteen subjects and included 100 questions. An average of 70 per cent was required to pass. Two candidates were examined, both of whom passed. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Georgetown University School of Medicine	(1937)		87
Regia Università di Torino Facoltà di Medicina e Chirurgia	(1936)		86

Sixteen physicians were licensed by endorsement from January 25 through May 15. The following schools were represented:

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
College of Medical Evangelists	(1935)		N. B. M. Ex.
University of Southern California School of Medicine	(1934)		California
Yale University School of Medicine	(1909)		Connecticut
Hahnemann Medical College and Hospital, Chicago	(1919)		Illinois
Rush Medical College	(1932)		Illinois
Indiana University School of Medicine	(1924)		Indiana
State University of Iowa College of Medicine	(1937)		N. B. M. Ex.
University of Maryland School of Medicine and College of Physicians and Surgeons	(1919)		N. Carolina
Detroit College of Medicine and Surgery	(1926)		Michigan
University of Minnesota Medical School	(1930)		Minnesota
University of Nebraska College of Medicine	(1922)		Nebraska
Syracuse University College of Medicine	(1934)		N. B. M. Ex.
University of Tennessee College of Medicine	(1934), (1936)		Tennessee
University of Texas School of Medicine	(1931), (1937)		Texas

Ohio Reciprocity and Endorsement Report

Dr. H. M. Platter, secretary, Ohio State Medical Board, reports seventeen physicians licensed by reciprocity and four physicians licensed by endorsement on April 4, 1939. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Emory University School of Medicine	(1937)		Georgia
University of Georgia School of Medicine	(1934)		Georgia
University of Louisville School of Medicine	(1937)		Kentucky
Johns Hopkins University School of Medicine	(1934, 2)		Maryland
Harvard Medical School	(1936)		Penna.
St. Louis University School of Medicine	(1937), (1938, 5)		Missouri
University of Cincinnati College of Medicine	(1937)		Kentucky
Jefferson Medical College of Philadelphia	(1915), (1934)		Penna.
Meharry Medical College	(1937)		Tennessee
Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin	(1922)		New York

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Yale University School of Medicine	(1935)		N. B. M. Ex.
Rush Medical College	(1929)		N. B. M. Ex.
University of Nebraska College of Medicine	(1934)		N. B. M. Ex.
University of Pennsylvania School of Medicine	(1934)		N. B. M. Ex.

Pennsylvania January Examination

Dr. James A. Newpher, director, Bureau of Professional Licensing, reports the examination held by the State Board of Medical Education and Licensure at Philadelphia, Jan. 3-7, 1939. Thirty-five candidates were examined, twenty-nine of whom passed and six failed. The following schools were represented:

School	PASSED	Year Grad.
Georgetown University School of Medicine		(1937)
Johns Hopkins University School of Medicine		(1937)
University of Buffalo School of Medicine		(1937)
Eclectic Medical College, Cincinnati		(1936)
Hahnemann Medical College and Hospital of Philadelphia		(1937)
Jefferson Medical College of Philadelphia		(1936, 3)
Temple University School of Medicine		(1937, 4)
Univ. of Pennsylvania School of Medicine	(1936, 6), (1937), (1937)*	
University of Toronto Faculty of Medicine		(1937)
Medizinische Fakultät der Universität Wien	(1919), (1937, 2)	
Hamburgische Universität Medizinische Fakultät	(1935), (1937)	
Universität Heidelberg Medizinische Fakultät		(1937)
Regia Università degli Studi di Roma. Facoltà di Medicina e Chirurgia		(1937)
University of Edinburgh Faculty of Medicine		(1937)

School	FAILED	Year Grad.
University of Toronto Faculty of Medicine		(1922)
Christian-Albrechts-Universität Medizinsche Fakultät, Kiel		(1913)
Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin		(1936)
Regia Università degli Studi Roma. Facoltà di Medicina e Chirurgia		(1936, 3)

* License has not been issued.

Book Notices

Principles of Hematology with 100 Illustrative Cases. By Russell L. Haden, M.A., M.D., Chief of the Medical Division of the Cleveland Clinic, Cleveland, Ohio. Cloth. Price, $4.50. Pp. 348, with 155 illustrations. Philadelphia: Lea & Febiger, 1939.

Many practicing physicians have expressed a desire for a concise discussion of hematology written in a simple style and language. The author apparently has anticipated their wishes, for this book answers that very need. Those procedures which are of value only to the trained hematologist are omitted, as are unusual variations in blood pictures. In spite of these purposeful deletions, the reader can profitably gain a thorough and scientific understanding of clinical hematology from this presentation. The book is complete and authoritative. It covers the usual list of subjects included in most books on hematology but differs principally in its originality of presentation. Emphasis is placed on the technic of examination and the clinical interpretations of these data. There are 168 original photomicrographs, ninety-five charts and drawings and numerous illustrative case histories to crystallize the descriptive material. The diagrammatic charts are distinctly original and should aid the practicing physician or student in visualizing concepts which might be difficult in words. The book is a distinct contribution in that it presents a very difficult but important subject in a manner which any student or physician cannot fail to understand. It is highly recommended and will undoubtedly enjoy a deserved popularity as an authoritative and concise source of practical hematologic information.

Schwangerschaftsunterbrechung aus urologischer Indikation. Von Prof. Dr. B. Ottow. Die Urologie in Einzeldarstellungen. Herausgegeben von Professor Dr. H. Boeminghaus. Boards. Price, 1.90 marks. Pp. 27. Leipzig: Georg Thieme, 1939.

This monograph deals with the urologic indications for the interruption of pregnancy. The interruption of pregnancy to prevent transmission of certain hereditary conditions was established by the laws of June 26 and July 18, 1935. In 1936 the Reichsärtzekammer set up the necessary regulations. No comprehensive treatise on the indications for the interruption of pregnancy in disease of the urinary organs has heretofore been available. Although many publications, as well as the regulations, deal with indications in cases of the ordinary lesions of the urinary organs, such as nephritis, pyelitis and tuberculosis, gynecologic urology in its entirety has not been considered. The author believes that consideration should be given to the possibility of carrying the pregnancy to its end, of terminating the pregnancy by section and of instituting sterilization.

With the implantation of the fertilized ovum in the mucosa of the uterus, certain biologic changes occur in the body of the pregnant woman because of the action of various hormones. According to the author, these hormones permit the growth of the pregnant uterus as well as of the genital tract and also are responsible for the resulting diminished tone of the tract. The changes in the upper urinary tract, namely dilatation of the pelvis and ureter and the increase in bladder capacity, according to the author are due to the same phenomenon, hormonal action. These changes lead to stagnation of the urine and hence predispose to infection, the pyelitis of pregnancy, so that one of nature's activities to prepare for labor produces changes resulting in complications that may demand interruption of pregnancy. Various lesions of the urinary system are discussed in this article in great detail. Congenital malformations, such as hypospadias, epispadias and ectopia of the bladder, are never grounds for interrupting pregnancy. When these have been corrected by various plastic operations, the pregnancy if normal should go to term and delivery should be by section.

Interposition operations should always be accompanied by sterilization to prevent subsequent pregnancy. Transplantation of the ureters into the bowel for ectopia constitutes a strong relative indication for interruption, even if cases have been reported in which a normal pregnancy was terminated by delivery naturally or by cesarean section. Malformations of the ureter are no indication to interrupt pregnancy unless complications arise because of severe infection. In many cases of pelvic kidney no difficulty is experienced. When it does give trouble the pregnancy should not be interrupted but should be terminated by cesarean section. When dystopic solitary kidney is present the patient should be under careful observation during pregnancy and then delivered by section. If, however, the solitary kidney becomes the seat of disease, the pregnancy should be interrupted at once.

If bilateral polycystic disease is recognized early in pregnancy, the pregnancy should be interrupted. If it is not recognized until toward the end of the pregnancy, and if the pregnancy is going along without any great difficulty, one can carry on and wait. The delivery should be carried out in the most protective way, with forceps. In the case of solitary kidney, if there is no disease of the kidney there is no indication to interrupt the pregnancy. Should the kidney be the seat of disease, the pregnancy should be interrupted at once. The author believes that interruption should be too early rather than too late. Suprapubic fistula and fistula of the ureter are never indications for the interruption of pregnancy. Inflammatory lesions of the urinary organs as a rule do not indicate interruption of pregnancy. Pyonephrosis calls for nephrectomy. Other conditions, such as stone or tumor, call for correction and not for interruption of pregnancy.

From the monograph one gains the impression that pyelitis of pregnancy is relatively common in Germany, whereas it is relatively rare in this country. The author discusses the various routes of infection, stating that the mild infections run their course and terminate in a cure with or without treatment. The more severe infections respond to urologic treatment, ureteral drainage by catheter and pelvic lavage, so that the pregnancy can continue to term. In cases of high fever and toxic manifestations, miscarriage occurs. With severe infections it is necessary to interrupt the pregnancy (from 1 to 3 per cent). This is not the experience of American urologists. Opinions still differ as to whether or not pregnancy should be interrupted in severe infections and, if it should be interrupted, as to when. It is exceedingly difficult to differentiate between the severe infections in which pregnancy should be terminated and the severe infections in which the patient can go on to term. The problem of management is simplified if the toxic or septic manifestation occurs toward the end of the pregnancy. Here the problem does not resolve itself into interruption of pregnancy and the loss of the fetus but into interruption by cesarean section and delivery of a living child.

Hematuria calls for careful urologic diagnosis to determine the cause. The author discusses a group of cases of so-called essential hematuria. If the bleeding becomes dangerous toward the end of the pregnancy, cesarean section should be done. If hematuria occurs early in the pregnancy and urologic and medical treatment fail, interruption of pregnancy is in order.

If it is known that a woman has renal tuberculosis, she should be urged not to become pregnant. In the case of bilateral renal tuberculosis the pregnancy should be interrupted. Bladder stones are very rare during pregnancy and never should be removed by litholapaxy with pregnancy allowed to go on. If surgical operation is to be done, the author favors suprapubic operation. Stones in the ureter call for treatment and not for interruption of pregnancy. Stones in the kidney do not call for interruption of pregnancy but call for their removal, preferably after delivery. In cases of stone in a single kidney the indication for interruption is more strict. If the stone is small and the symptoms are mild, one might try to carry the pregnancy through to term. If the stone is observed early in the pregnancy, interruption is in order.

The author then discusses tumors of the urinary tract. Benign tumors such as papillomas should be removed by the cystoscopic method, preferably after delivery, unless they are causing symptoms. Malignant tumors should be removed at once. The management of a patient with a malignant tumor must be decided in each case. Early pregnancy should be interrupted so that one may treat the tumor unhampered. In the latter part of the pregnancy, especially toward the end, when a malignant tumor is found one must consider the child.

One is impressed by the frequency with which the author resorts to cesarean operation.

Artistic Anatomy. By Walter Farrington Moses. Second edition. Cloth. Price, $3.50. Pp. 59, with 57 plates. Los Angeles, California: Borden Publishing Company, 1939.

This newly revised, augmented edition was published especially for artists. There are fifty-seven plates of anatomic drawings presenting the human skeleton and muscles. The black and white pencil drawings are anatomically accurate. The annotations on the face pages for each plate are concise and informative, giving the anatomic names of the bones and muscles with a concise description of the skeleton and the origins, insertions and actions of the muscles. The appreciation of muscle contours of the human body and their relation to the skeleton and skin is important to artists. There are drawings of the entire body in various postural attitudes and also separate drawings of the extremities, head and neck and trunk. The introduction is a complete short treatise on the anatomy of bones and joints from the topographic point of view. A complete page glossary is given at the end. Artists, physical therapists, physical educationalists and physical culturists should derive great benefit from this book.

Vitamins and Vitamin Deficiencies. By Leslie J. Harris, Ph.D., Sc.D., D.Sc., Nutritional Laboratory, Medical Research Council and University of Cambridge. Vol. I: Introductory and Historical. Vitamin B_1 and Beri-Beri. With foreword by Sir Frederick Gowland Hopkins, O.M., F.R.C.P., F.R.S. Cloth. Price, $2.50. Pp. 204, with 50 illustrations. Philadelphia: P. Blakiston's Son & Co., Inc., 1938.

The author is a well known authority on nutrition, and yet with characteristic modesty he states that the present volume has been written because of a need of keeping himself familiar with the growth of knowledge about the vitamins. To learn about a subject there is the Oxford way—to read all the books that have been written on it—and the Cambridge way—to write your own book. Readers will be glad that Professor Harris chose the Cambridge way. The present small volume consists of an introduction to the vitamins from the historical point of view and a discussion of vitamin B_1 and of beriberi as a vitamin deficiency disease. The features of the book are the commendable brevity with which the material is summarized, the large number of well chosen illustrations and the fairly complete bibliography. Some of the experimental results described in the literature are well summarized in the form of tabular statements. The book is extraordinarily complete for one of such small size. Perhaps its value lies in part in the fact that its material has been long digested; the author states that the original manuscript was begun six years ago, but it has necessarily been revised many times since then. In addition to the fifty illustrations there are twenty-four tables in the text. There is an adequate subject index and also an author index. The latter covers four and one-half pages of fine type, which is in itself an indication of the extent of the bibliography in each chapter. The reader must agree with the statement in the foreword by F. Gowland Hopkins that the book can be recommended to all students who desire information and those specialists who would welcome a well written summary of available facts and a satisfactory bibliography.

Studies on the Size of the Red Blood Cells Especially in Some Anæmias. By Erik Mogensen. Denne Afhandling er af det lægevidenskabelige Fakultet antaget til offentlig at forsvares for den medicinske Doktorgrad, København. Cloth. Pp. 216, with 43 illustrations. Copenhagen: Ejnar Munksgaard; New York & London: Oxford University Press, 1938.

The determination of red blood cell diameters has assumed a prominent role in the classification and therapy of many anemias. The fact that the procedure serves as a guide to rational treatment has elicited clinical interest. In the first chapter the author reviews the various methods for determining the size of red cells. The next chapter is devoted to a detailed and comprehensive discussion of the Prue-Jones method, which the author employed in his study. Then follow chapters on the author's measurements in normal persons and in persons with pernicious anemia, simple anemia with achylia, the hypochromic anemia of infants, idiopathic steatorrhea, anemia in carcinoma of the stomach, diseases of the liver, leukemia, acholuric jaundice, renal disease and scurvy. Representative case histories are given as a separate chapter complementing the discussions. The last chapter is devoted to a summary of each of the preceding chapters. The monograph is a definite contribution and can be read and understood by the novice. In spite of the literary simplicity, the author has not sacrificed any important mathematical or hematologic data. An exhaustive bibliography is available for those who wish to pursue any phase of the subject in greater detail. The work reflects a scholarly and practical study and can be profitably read by every one engaged in hematologic work.

Surgical Pathology of the Diseases of the Mouth and Jaws. By Arthur E. Hertzler, M.D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas. Cloth. Price, $5. Pp. 248, with 206 illustrations. Philadelphia, Montreal & London: J. P. Lippincott Company, 1938.

This is the last of a series of ten monographs written by Hertzler discussing the surgical pathology of various regions of the body. Dr. Hertzler continues to be one of the most entertaining medical authors. This volume is profusely illustrated with reproductions of photographs from clinical cases and photomicrographs of the lesions discussed. Benign and malignant lesions of the mouth, lips and tongue are briefly but adequately described. There is a short chapter on tumors of dentigerous origin for which the unfortunate synonym "mixed tumors" is used. This may give rise to some confusion, since heterologous salivary gland tumors also are referred to as "mixed tumors." There are two chapters on diseases of the nasopharynx and the larynx in which the surgical diseases are briefly described. Because, as Hertzler states in the preface, the book is written only of things he has seen and on the basis of his own experience, the text is not a complete account of the surgical pathology of these regions. However, the material presented is interestingly and often amusingly discussed and should prove of value to those treating the diseases of this region.

Uterus Masculinus: A Critical and Constructive Essay Concerning the Genitalia and Their Homologues. By J. A. Leo Magee, M.B. Cloth. Price, 5s. Pp. 95. London: H. K. Lewis & Co., Ltd., 1939.

This is a nicely bound small essay developing an erroneous idea conceived seventeen years earlier and not weighed against recent advances, to the effect that the male prostate gland is the homologue of the uterus. One seeking basic information on the uterus masculinus will need search elsewhere.

Diabetic Retinitis: Clinical Studies of 195 Cases of Retinal Changes in Diabetics. By Steen Hanum. Denne Afhandling er af det lægevidenskabelige Fakultet antaget til offentlig at forsvares for den medicinske Doktorgrad, København. Acta Ophthalomolgica, Supplementum XVI. Paper. Pp. 174, with 12 illustrations. Copenhagen: Einar Munksgaard, 1939.

This work was submitted by Hanum as his thesis for his degree of doctor of medicine. The material was compiled from examination of patients in Copenhagen hospitals during the years 1928 to 1938. Examinations were made of 966 patients with diabetes, 195 of these having retinal lesions. Statistical data, including age, duration of the disease, sex, gravity of the diabetes and incidence of retinal manifestation are catalogued and compared with material of authorities such as Joslin, Waite and Beetham, Braun and Wagener and Wilder. The history and the ophthalmoscopic picture in diabetes are reviewed. The retinal manifestations are divided into four types: (1) exudative diabetic retinitis, (2) circinoid diabetic retinitis, (3) hemorrhagic diabetic retinitis and (4) proliferative diabetic retinitis. Sixty per cent of his 195 patients had the first type. The fourth type is considered in great detail. There were only twelve patients with this type, and Hanum believes that capillary resistance is lowered in such patients and that ascorbic acid and vitamin P (citrin) are indicated in the treatment. The cause of the retinitis is discussed under the headings of carbohydrate metabolism, glycosuria, hyperglycemia, lipoid metabolism, acetone bodies and relationship of renal factors, including hypertension and arteriosclerosis. A chapter on the pathologic anatomy of the retinitis is included. Diagnosis, therapy, the use of insulin and the prognosis in given cases conclude the dissertation. Hanum has worked out a mathematical formula as to prognosis. He concludes that (1) the greatest incidence both of diabetes and of retinitis is met in the fifth and sixth decades, (2) there is a marked relationship between the duration of diabetes and the occurrence of retinal changes and (3) the Volhard thesis "with-

out hypertension no retinitis in diabetic patients" cannot be maintained in the categorical form in which it has been set forth. Drawings, colored photographs and an excellent bibliography are included. The article in its translation from Danish is not in the best of English style but the meanings are clear. The work is of decided interest to all physicians who number diabetic persons among their patients.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Malpractice: Fracture of Tibia and Fibula; Failure to Make Roentgenograms; Absence of Callus; Expert Testimony. — One of the plaintiffs fractured the tibia and fibula of her right leg Oct. 23, 1935. When she was brought to the defendant physician he advised her removal to one of two named hospitals which had adequate facilities for the treatment of such a case. To this she demurred because of the expense. The defendant thought, however, that he could treat the fracture without using x-ray equipment, and the patient was taken to the county hospital, which was lacking in that respect. There the defendant set the fractured bones and applied a temporary plaster of paris cast. On November 11 he replaced that temporary cast with a permanent one. He furnished the plaintiff with calcium tablets to aid the process of nature in uniting the bones and then discharged her from the hospital, after warning her against placing weight or strain on the broken leg. After her discharge the patient visited the defendant weekly until December 20. On that day she informed him that roentgenograms taken by a Dr. Harlan the day before showed that the bones had not united and were out of alinement. At the defendant's insistence, a roentgenogram was made by a Dr. Brown, which showed that the bones were, according to Dr. Brown, in a "nice position as far as being opposite to each other is concerned" but were not properly united and that there was an absence of callus. The defendant then advised the plaintiff to consult a bone specialist. She did not consult the defendant after that date.

The patient and her husband sued the physician defendant for malpractice. To prove negligence they relied on the facts that he had not used an x-ray machine nor used mechanical tension on the limb and that the bones had not properly united because of a lack of callus. The trial court directed a verdict in favor of the defendant. The plaintiffs appealed to the district court of appeal, third district, California.

The action of the trial court was proper, in the opinion of the appellate court, since there was no substantial evidence to support a judgment against the defendant. It is true, said the court, that the defendant made no roentgenograms of the fracture, but he refrained from doing so because he knew its character in a general way and could feel the break and its general direction. He had advised the defendant to go to an adequately equipped hospital but she had declined to do so and went to a hospital where no x-ray equipment was available. The defendant believed that he could reduce the fracture without such equipment and apparently he did so, for Dr. Brown, who made a roentgenogram on or about December 20, testified that the bones were in nice position as far as being opposite to each other was concerned. In the opinion of the appellate court, it could not be said that failure to use an x-ray machine in the reduction of a fracture constitutes negligence under all circumstances. The necessity of employing an x-ray machine in reducing a fracture depends entirely on the circumstances of the particular case. Whether the reduction and treatment of a fractured bone without the use of an x-ray machine constitutes negligence depends on what an ordinarily skilled physician practicing in the vicinity, in the exercise of due care and professional judgment, does under like circumstances. The determination of that question depends on expert testimony.

The testimony of Dr. Brown, called as an expert witness for the plaintiffs, that there appeared to be an absence of callus to unite the bones properly, furnished, in the opinion of the appellate court, no evidence of negligence on the part of the defendant, in the absence of expert testimony showing treatment by him in conflict with the recognized practice of other skilled physicians in the vicinity. The fact that nature failed to develop normally the callus necessary to unite the bones and that the defendant did not discover that unusual condition did not prove that he was guilty of malpractice. There was no evidence to show that any error on his part helped to prevent the normal development of callus. The only omission by the defendant, said the appellate court, of which the plaintiffs might reasonably complain was his failure to make roentgenograms at an earlier date after reducing the fracture. If he had done so, possibly he might have discovered sooner the lack of callus and have advised his patient to consult a bone specialist then. The defendant testified, however, that he had no intimation of a lack of callus until the roentgenogram was taken December 20. The omission of earlier roentgenograms was, therefore, only an error of judgment, and an error of judgment does not constitute actionable malpractice.

Over objection by the defendant, another medical expert called by the plaintiffs testified in response to a lengthy hypothetical question that it was not accepted medical practice in the community in which the patient was treated or any other community to attempt to set a broken leg without the use of x-ray apparatus and without applying traction or tension to the foot to adjust the bone. On cross-examination it was shown that this witness based his conclusions on his own judgment and not on his knowledge of the customary practice of other skilled physicians in the locality in which the case was treated; he conceded that he did not know what the practice of other physicians in that locality was. The action of the trial court, said the appellate court, in striking out the testimony of this witness, on the motion of the defendant, on the ground that the witness was not qualified to testify concerning the matter, was proper. A medical expert witness must possess the required professional knowledge, learning and skill to enable him to express an opinion and must be familiar with the methods of treatment of similar ailments by other physicians in the locality and with the knowledge and skill required in such treatment.

Objection by the defendant to a hypothetical question propounded by plaintiffs' attorney to another medical expert called by the plaintiffs was sustained by the trial court because the question did not state all the essential circumstances incident to the setting of the fractured bones and to the subsequent treatment. The chief test of the competency of a hypothetical question, said the appellate court, which seeks to elicit the professional opinion of a physician regarding the treatment of a patient is whether it is or is not a full and fair recital of all the essential evidence disclosed by the records on the particular issue which is involved. Where the question assumes facts in direct conflict with the undisputed evidence or omits material facts on which a determination of the problem depends, the hypothetical question becomes misleading and is likely to lead the witness to a false conclusion. Under such circumstances, the question should be excluded. The action of the trial court in excluding the disputed question in the present instance was sustained by the appellate court.

The action of the trial court in directing a verdict in favor of the defendant physician was sustained.—*Bickford v. Lawson (Calif.), 81 P. (2d) 216.*

Society Proceedings

COMING MEETINGS

Idaho State Medical Association, Boise, Aug. 23-26. Dr. J. N. Davis, 204 Fourth Avenue East, Twin Falls, Secretary.

National Medical Association, New York, Aug. 15-19. Dr. John T. Givens, 1108 Church St., Norfolk, Va., General Secretary.

Washington State Medical Association, Spokane, Aug. 28-30. Dr. V. W. Spickard, 1305 Fourth Ave., Seattle, Secretary.

West Virginia State Medical Association, White Sulphur Springs, July 10-12. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1929 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Digestive Diseases, Huntington, Ind.

6: 73-160 (April) 1939

Characteristics of Certain Experimentally Produced Anomalies of the Gastric Secretory Curve. C. M. Wilhelmj, R. W. Finegan and D. E. Baca, Omaha.—p. 73.

Histologic Study of Hypervitaminosis D.: Relative Toxicity of Vitamin D of Irradiated Ergosterol and Tuna Liver Oil. R. S. Harris, B. D. Ross and J. W. M. Bunker, Cambridge, Mass.—p. 81.

Hepatic Glycogen in Obstructive Jaundice: I. Comparative Effect of Oral and Intravenous Dextrose Administration. B. M. Banks and J. B. Sears, Boston.—p. 83.

Management of Peptic Ulcer Hemorrhage. D. C. Browne and G. McHardy, New Orleans.—p. 87.

Bleeding Peptic Ulcer (Report of Eighty Cases). G. C. Turnbull and J. H. Sagi, Evanston, Ill.—p. 92.

*Pectin and Nickel Pectinate in Acute and Chronic Bacillary Dysentery. L. H. Block, A. Tarnowski and B. H. Green, Chicago.—p. 96.

Influence of Ingestion of Nickel Pectinate on Growth of Young Rats. L. Arnold, Chicago.—p. 103.

Bactericidal Action of Pectin and Metal Pectinates. L. Arnold, Chicago.—p. 104.

Para-Esophageal Hiatus Hernia and Related Conditions. T. A. Johnson, Philadelphia.—p. 106.

Use of Food in Treatment of Bleeding Peptic Ulcer (Meulengracht Diet). W. D. Mayer and J. J. Lightbody, Detroit.—p. 108.

Clinical Experience with Crystalline Insulin. A. Levitt and S. J. Jaskiewicz, Buffalo.—p. 110.

Chronic Granuloma of Small Intestine. D. S. Likely and J. R. Lisa, New York.—p. 113.

Effect of Apples and Cranberries on Calcium Retention. A. Mindell, W. B. Esselen Jr. and C. R. Fellers, Amherst, Mass.—p. 116.

Urinary Elimination of Free Phenolphthalein No Test for Gastrointestinal Ulceration. F. Steigmann and J. M. Dyniewicz, Chicago.—p. 120.

Pectin and Nickel Pectinate for Dysentery.—Block and his associates compared the effects of pure pectin and nickel pectinate in bacillary dysentery. They found pure pectin to be ineffective; nickel pectinate to possess detoxifying bactericidal and antihemorrhagic properties and to be effective in the treatment of bacillary dysentery. The results in the majority of ninety-five cases treated with nickel pectinate were excellent. Definite improvement was observed in the appearance and general condition of every patient, and this was accompanied by the disappearance of all acute symptoms, tenesmus and bloody diarrhea and an increase in weight.

American Journal of Physiology, Baltimore

126: 1-214 (May) 1939. Partial Index

Salt Taste Threshold of Humans. C. P. Richter and Alice MacLean, Baltimore.—p. 1.

Lymphatic Absorption from Nasopharynx. Jane D. McCarrell, Boston.—p. 20.

Inhibition of Gastric Motility Associated with Presence of Products of Protein Hydrolysis in Upper Small Intestine. J. E. Thomas and J. O. Crider, Philadelphia.—p. 28.

Diffusion of Calcium, Magnesium and Phosphorus into the Peritoneum: Effect of Intravenously Injected Calcium Salts and of Parathyroid Hormone. A. Cantarow and V. G. Haury, Philadelphia.—p. 66.

*Effect of Carmine on Gastrointestinal Motility of Children. Icie G. Macy, L. Reynolds and Helen J. Souders, Detroit.—p. 75.

Economy of Effort Index for Hearts of Normal and Hypertensive Subjects. G. W. Wright, W. R. Hallaran and C. J. Wiggers, Cleveland.—p. 89.

Effect of Phospholipid Ingestion on Gas Exchange in Man. R. Reiser, Durham, N. C.—p. 109.

Studies on Secretion of Bile. C. R. Schmidt, J. M. Beazell, A. L. Berman, A. C. Ivy and A. J. Atkinson, Chicago.—p. 120.

Kinetics of Cholinesterase in Blood and Spinal Fluid. M. B. Bender, New York.—p. 180.

Carmine and Gastrointestinal Motility.—According to Macy and her co-workers, x-ray study of the effect of from 0.2 to 0.3 Gm. of carmine on the gastrointestinal motility of seven average healthy children from 7 to 11 years of age indicated that the carmine had little effect on the total retention time of a test meal (2 ounces of barium, 4 ounces of water). However, definite changes in the motility of the sections of the gastrointestinal tract were produced by the carmine. The average emptying time of the stomach was 257 minutes with the test meal alone; with the test meal preceded by the carmine the average was 177 minutes. The percentage decrease in emptying time of the stomach with the carmine meal ranged from 21 to 51, with an average of 31. The roentgenograms indicated that, after leaving the stomach, the test meal without carmine tended to increase the speed of its passage until, about four or five hours after ingestion, the progress made by the two meals was approximately equal. Complete records of the time of each defecation during the twenty-six days within which four test meals were followed roentgenographically did not show variations which could be attributed to the carmine.

Am. J. Syphilis, Gonorrhea and Ven. Dis., St. Louis

23: 277-412 (May) 1939

Protection of Marriage and Child Life Against Syphilis. W. F. Snow, New York.—p. 277.

Marriage and the Laboratory. N. A. Nelson, Boston.—p. 288.

*Findings in 913 Premarital Examinations. W. M. Brunet and J. B. Salberg, Chicago.—p. 300.

Minimal Effective Concentrations of Arsenic and Bismuth Compounds on Treponema Pallidum in Vitro in Relation to Therapeutic Dose. H. Eagle, Baltimore.—p. 310.

Problems of Gonococcic Infection: Present Status and Future Outlook. R. D. Herrold, Chicago.—p. 319.

Sulfanilamide Therapy in Acute Neisserian Urethritis. R. Lich Jr. and G. R. Rowntree, Louisville, Ky.—p. 323.

*Mapharsen in Treatment of Syphilis Complicating Pregnancy: Comparative Study. M. A. Castallo, J. A. Coppolino, A. E. Rakoff, P. H. Roeder and G. S. Dickson, Philadelphia.—p. 332.

Sensitivity to Arsenical Drugs: Report of Unusual Case Exhibiting Sensitivity to Both Trivalent and Pentavalent Arsenic. H. H. Golz, Clarksburg, W. Va.—p. 344.

Compulsory versus Voluntary Methods of Venereal Disease Control in Scandinavia, Holland and Great Britain. A. W. Towne, Syracuse, N. Y.—p. 348.

Premarital Examinations.—Brunet and Salberg discuss the observations in 913 women patients receiving a premarital physical examination and necessary laboratory tests. The average age for the group of 913 women was 23 years, with a range from 16 to 57 years. The details of the sexual life, pregnancies and abortions of the group are discussed. Of the 913 women, six white and three Negro women had received treatment for gonorrhea. One white patient had been treated for syphilis. The number of applicants for marriage certificates in Illinois who have given positive blood Wassermann and Kahn tests amounts to 2 per cent. The state health department reported 896 positive reactions out of 47,781 examined up to July 1938, which is a rate of 1.9 per cent. Of the 913 women, 905 of whom were white, seven white patients were found to have gonorrhea and seven syphilis. None of these patients had both infections. Of the eight Negroes, one was found to have latent syphilis and two were suffering from both gonorrhea and syphilis. The rate for the entire group is 2 per cent and for the white women alone 1.5 per cent. The authors state that this law prohibiting the marriage of individuals with positive serologic tests is wholly unjust, and in persons with congenital syphilis it may be a violation of their constitutional rights. They seriously question the authority and legality of such a statute to prevent the marriage of individuals on this basis. The law should be amended so that the examining physician will be the final authority as to the physical fitness of persons desiring to marry.

Mapharsen for Syphilis Complicating Pregnancy.—Castallo and his co-workers treated 116 syphilitic pregnant women with mapharsen and bismuth. Twenty-six were primigravidas, none of whom had received previous treatment. Among the multigravidas, twenty-two had received treatment in earlier pregnancies. Treatment consisted of weekly intravenous injections of 40 mg. of mapharsen and intramuscular injections of bismuth salicylate in oil. A total of 849 injections containing 31,940 mg. of mapharsen were given. There were 106 live births for the entire group. Among seventy-six patients who received six or more treatments there were seventy-two live births. There were only forty-one live births among forty-nine patients who started treatment before the sixth lunar month. There were ten fetal deaths, seven being stillbirths and three

miscarriages. These mothers received from one to ten treatments, the average being five. Fifty of the 106 babies born alive have been followed in the pediatric clinic. Five proved to be Wassermann positive. Nausea and vomiting following the first few injections occurred in almost every woman. Persistent gastrointestinal reactions were frequent, occurring in sixty-six of the group. In six instances these were so severe as to necessitate withdrawal of the drug. Relative or actual loss in weight was common. The results are compared with those obtained in similar groups of patients who had been treated with neoarsphenamine, acetylarsan and quinine iodobismuthate, and the authors believe that neoarsphenamine is the drug of choice for the treatment of syphilis complicating pregnancy.

American Review of Tuberculosis, New York

39: 557-682 (May) 1939

Hematogenic Tuberculosis in the Adult: I. Generalized Hematogenic Tuberculosis. E. H. Rubin, New York.—p. 557.
Life Expectancy in Tuberculosis as Revealed by Case Fatality Rates. E. Bogen, Olive View, Calif.—p. 587.
Case Fatality Rates in Tuberculosis: Second Note with Reference to Methods of Comparing Reports of Cases and Deaths in Certain Communities. G. J. Drolet, New York.—p. 597.
Tuberculosis Mortality in Industrial Populations of Massachusetts and Michigan. C. C. Dauer, Washington, D. C.—p. 603.
Routine Bronchoscopy in Patients with Active Pulmonary Tuberculosis. R. B. McIndoe, Howell, Mich.; J. D. Steele, Milwaukee; P. C. Samson, Oakland, Calif.; R. S. Anderson, Erie, Pa., and G. L. Leslie, Howell, Mich.—p. 617.
Diagnostic Bronchoscopy in Occult Tuberculosis. S. J. Shipman, San Francisco.—p. 629.
*Postmortem Incidence of Tuberculous Tracheobronchitis. I. J. Flance, Koch, Mo., and P. A. Wheeler, St. Louis.—p. 633.
Tuberculous Tracheitis: Case Report. W. I. Werner, Albuquerque, N. M.—p. 637.
Serial Leukocyte Counts: Their Practical Value in Management of Pulmonary Tuberculosis. B. J. Elwood and T. De Cecio, Jersey City, N. J.—p. 641.
Olive Oil in Pneumothorax: Its Influence on Development and Course of Pleural Fluids During Course of Artificial Pneumothorax. S. Schwartz and F. H. Heise, Trudeau, N. Y.—p. 651.
Tuberculin Survey: Observations on Medical Students and Undergraduate Nurses at Vanderbilt University. A. E. Keller and R. H. Kampmeier, Nashville, Tenn.—p. 657.
X-Ray Study of the Adult Relief Population of a Small Community. D. O. N. Lindberg, Decatur, Ill.—p. 666.
*Incidence of Tuberculous Infection in Student Nurses. Ruth E. Boynton, Minneapolis.—p. 671.
Spontaneously Acquired Tuberculosis in Rhesus Monkeys. K. C. Smithburn, New York.—p. 675.

Postmortem Incidence of Tuberculous Tracheobronchitis.—During a period of three years Flance and Wheeler examined the trachea and bronchus in 285 cases of pulmonary tuberculosis that came to necropsy. Nine cases of gross tuberculous tracheo-bronchitis, proved by microscopic study, were found, a total incidence of 3.1 per cent. Of these nine cases, seven were tracheal ulcers, one was a case of ulceration associated with stenosis of the left main bronchus, and the ninth case was one in which no ulcerations were seen but only submucosal tubercles. On checking through the clinical histories of these cases the authors found no symptoms of marked wheezing, dyspnea, cyanosis or sputum changes other than those attributable to a moribund state.

Incidence of Tuberculosis in Nurses.—Boynton compared the incidence of tuberculous infection as evidenced by a change from a negative to a positive tuberculin reaction in students in the College of Education, student nurses in a general hospital service and student nurses in a special tuberculosis service. Of 228 students who entered the College of Education in the years 1930 and 1931, 26.8 per cent had a positive tuberculin reaction. Of the 167 of this group who were tuberculin negative in the freshman year, 149 were retested four years later. Only one of the 149 had become tuberculin positive during this time. Of the 239 student nurses entering the University School of Nursing during the years 1933 to 1937, 29.9 per cent showed a positive tuberculin reaction. Forty-one of these nurses became tuberculin positive when retested early in the second year of training. Undoubtedly many patients with undiagnosed active tuberculosis are admitted to general hospitals for surgery or emergency care and are a grave source of infection to the medical and nursing personnel. Tuberculin tests were given to 367 student nurses one week before beginning a special tuberculosis service. Of these 170, or 46.3 per cent, were tuberculin negative. One month after completing this service, 158 of the students who were negative to tuberculin at the time they started the service were retested. Thirty-five of the 158, or 22.2 per cent, had become infected with tuberculosis as shown by a change from a negative to a positive tuberculin reaction. It is seen that the tuberculosis infection rate for student nurses in a general hospital service is 100 times as great and for student nurses in a tuberculous service 500 times as great as that for students in the College of Education.

Annals of Surgery, Philadelphia

109: 641-880 (May) 1939

Presidential Address: The Panama Adventure. L. Noland, Fairfield, Ala.—p. 641.
Extradural Diploic and Intradural Epidermoid Tumors (Cholesteatoma). J. E. J. King, New York.—p. 649.
Treatment of Internal Carotid Aneurysms Within the Cavernous Sinus and the Cranial Chamber: Report of Three Cases. W. E. Dandy, Baltimore.—p. 689.
Thyrotoxicosis, Including Study of Duration of Preoperative Treatment. E. P. Lehman and E. W. Shearburn, University, Va.—p. 712.
Results of Thyroidectomy in Hyperthyroidism Associated with Neurocirculatory Asthenia. W. H. Prioleau, Charleston, S. C.—p. 729.
Traumatic Arteriovenous Aneurysms of the Great Vessels of the Neck: Observations on Seven Cases. J. M. Mason, Birmingham, Ala.—p. 735.
Arteriovenous Aneurysm (Femoral Below Profunda): Case Report. I. Cohn and B. R. Heninger, New Orleans.—p. 749.
*Suppurative Pericarditis. I. A. Bigger, Richmond, Va.—p. 763.
Treatment of Peptic Ulcer. J. E. Cannaday, Charleston, W. Va.—p. 771.
Primary Carcinoma of Ileum. F. W. Griffith, Asheville, N. C.—p. 785.
Megarectum and Megasigmoid. H. B. Stone, Baltimore.—p. 791.
Surgical Treatment of Complete Rectal Prolapse. J. deJ. Pemberton and L. K. Stalker, Rochester, Minn.—p. 799.
Pancreatic Calculi: Review of Sixty-Five Operative and 139 Nonoperative Cases. W. D. Haggard and J. A. Kirtley Jr., Nashville, Tenn.—p. 809.
*Mesenteric Lymphadenitis. W. D. Wise, Baltimore.—p. 827.
Relation of Chronic Inflammation and Especially Lymphogranuloma Inguinale to Development of Squamous Cell Carcinoma of Rectum. V. C. David and M. Loring, Chicago.—p. 837.
Intestinal Obstruction Due to Intraluminal Foreign Bodies. A. Storck, J. E. Rothschild and A. Ochsner, New Orleans.—p. 844.
Trichobezoars: Report of Case with Recurrence. J. D. Collins, Portsmouth, Va.—p. 862.
Surgery in Hemophilia: Report of Four Cases. C. A. Vance, Lexington, Ky.—p. 872.

Suppurative Pericarditis.—According to Bigger, the records of the Medical College of Virginia Hospitals show that the diagnosis of acute pericarditis has been made in fifty cases during the last eight years. Twenty-six were made by clinicians and twenty-four were first made by pathologists, showing that 50 per cent of the cases are not diagnosed clinically. One of the chief factors in the failure to diagnose acute pericarditis is the absence of significant symptoms. Suppurative pericarditis, which is almost always secondary to infection elsewhere, is likely to be obscured by the associated or antecedent disease. This is especially true when the primary infection is within the thorax. Therefore a correct diagnosis will not be made often unless physicians make repeated examinations of the cardiac area in septic cases, especially those with intrathoracic or subphrenic infections, and in osteomyelitis with septicemia. The physical signs are usually more characteristic than are the symptoms. It is probable that a friction rub occurs at some time in all such cases, and it not infrequently persists even in the presence of a large accumulation of fluid; but in other instances it is transient. If a friction rub is not heard and there is no appreciable increase in the amount of intrapericardial fluid, the diagnosis cannot be made, but, fortunately, in those cases in which the diagnosis is of the greatest importance there is a rapid increase in the amount of fluid, which produces the signs of cardiac tamponade. In such cases physical examination will show an increase in the area of pericardial dulness and roentgenograms will demonstrate an enlarged pericardial shadow, while fluoroscopic examination will show an apparent immobility of this shadow. These signs are strong evidence of the presence of a pericardial effusion, but that an effusion is purulent can be proved only by pericardicentesis or pericardiostomy. However, if the diagnosis seems clear it is probably better to proceed with the pericardiostomy without preliminary puncture, as pericardicentesis is not without danger.

Mesenteric Lymphadenitis.—Of the eight patients with mesenteric lymphadenitis whom Wise questioned, six gave histories of recent or fairly recent infections of the upper part of the respiratory tract; two had no such record. As most

of the patients were children, such a history may be a coincidence rather than cause and effect. Four patients have had subsequent respiratory infections without abdominal symptoms. Two had histories of symptoms recurring for a year or more. This would seem to cast doubt on the poliomyelitis hypothesis, as that disease does its damage promptly, does not recur and confers immunity. In none of this series did paralysis develop. One patient suffered from unusually severe allergies and had a chronic Streptococcus viridans infection of the throat. Since appendectomy he has had no more abdominal symptoms, yet microscopic examination showed the appendix to have an obliterated lumen. An unusually large lymph node the color of liver removed from the meso-appendix was sterile and no filtrable viruses could be demonstrated. Though the seasonal incidence (fall) has not been corroborated by other observers, the author states that in his series it was paralleled by other admissions to Mercy Hospital with one exception. This brings up the question of food and atmospheric or other seasonal factors. Appendectomies were performed on the eight patients and seven have been entirely relieved. One patient cannot be traced. A ninth patient, who was not operated on, continues to have abdominal symptoms. The patient with the various allergies remains ill of the Streptococcus viridans throat infection and allergic manifestations but no longer complains of abdominal symptoms. The author wonders why the removal of rather innocent looking appendixes in these cases should produce such a large percentage of symptomatic cures. Two of the seven patients accounted for have been followed for a few months and five for more than a year.

Archives of Pathology, Chicago

27: 811-954 (May) 1939

Base-Protein-Acid Compounds Prepared from Fibrin. M. H. Fischer and W. J. Suer, Cincinnati.—p. 811.
Fibrin as Catalase. M. H. Fischer and W. J. Suer, Cincinnati.—p. 815.
Casein as Catalase. M. H. Fischer and W. J. Suer, Cincinnati.—p. 824.
Experimentally Induced Benignancy of Neoplasm: II. Effect of Treatment with an Estrogen and of Castration of the Host. I. T. Nathanson and W. T. Salter, Boston.—p. 828.
Epithelial Functional Rejuvenation Observed in Mucous Cells of Gastrointestinal Tract and Parietal Cells of the Stomach. N. W. Popoff, Rochester, N. Y.—p. 841.
Effect of Thyroid Feeding on Removal of Cholesterol. L. Zon, Baltimore.—p. 888.
Complex Infections. R. E. Shope, Princeton, N. J.—p. 913.

Archives of Surgery, Chicago

38: 797-978 (May) 1939

Effect on Wound Healing of Bactericidal Ultraviolet Radiation from Special Unit: Experimental Study. D. Hart, Durham, N. C., and P. W. Sanger, Charlotte, N. C.—p. 797.
Bactericidal and Fungicidal Effect of Ultraviolet Radiation: Use of Special Unit for Sterilizing Air in Operating Room. D. Hart, J. W. Devine and D. W. Martin, Durham, N. C.—p. 806.
Tumor of Brain as Cause of Disorders of Autonomic Nervous System. A. Lurje, Moscow, Soviet Union.—p. 816.
Fractures of Pelvis: Analysis of Seventy-Nine Cases. J. J. Greene and D. H. Smith, New York.—p. 830.
*Fatal Pulmonary Embolism. B. C. Russum, Omaha, and F. J. Kemp, Plymouth, Mich.—p. 853.
Ectopic Pregnancy, Diagnostic Problem in Gynecology: Report of Case. P. Bernstein, New York.—p. 864.
Intestinal Obstruction in Man: Alterations in Serum Bases and Their Significance. M. A. Falconer, A. E. Osterberg and J. A. Bargen, Rochester, Minn.—p. 869.
Effects on Kidney and Blood Pressure of Artificial Communication Between Renal Artery and Vein. E. P. Lasher Jr. and F. Glenn, New York.—p. 886.
Regeneration of Nerves After Anastomosis of Small Proximal to Larger Peripheral Nerves: Experimental Study Concerned with Relief of Peripheral Neurogenic Paresis. R. B. Aird and H. C. Naffziger, San Francisco.—p. 906.
Fibrocystic Disease of Breast. B. A. Goodman, New York.—p. 917.
Rate of Fibroplasia and Differentiation in Healing of Cutaneous Wounds in Different Species of Animals. E. L. Howes, Washington, D. C.; S. C. Harvey and Cornelia Hewitt, New Haven, Conn.—p. 934.
Injuries of Ligaments of Knee Joint: Experimental Study. M. T. Horwitz, Philadelphia.—p. 946.
*Results of Treatment of Chronic Indolent Wounds with Azochloramid. E. T. Newell Jr., Baltimore.—p. 955.
Sixty-Eighth Report of Progress in Orthopedic Surgery. J. G. Kuhns, S. M. Roberts, W. A. Elliston, F. W. Ilfeld, G. G. Bailey, Boston; J. A. Freiberg, Cincinnati, and J. E. Milgram, New York.—p. 964.

Fatal Pulmonary Embolism.—In a review of 1,781 consecutive unselected necropsies performed on adults between Jan. 1, 1926, and Oct. 31, 1937, Russum and Kemp found twenty-four cases of fatal pulmonary embolism (five were post-traumatic, five followed medical treatment, thirteen were postoperative and one was post partum). The material came from general hospitals and from the coroner's service. A study of the material and a survey of the literature indicate to them that ages between 40 and 60, the female sex, operations on the abdomen and the pelvis, heart disease and obesity with normal or subnormal blood pressure are factors favorable to embolism. Eight of the twenty-four patients had nonfatal embolism preceding the fatal attack by from three hours to thirty days. Such nonfatal embolism occurred on an average of five days after operation or trauma. Shock should be the criterion for diagnosing embolism; the most common symptoms are perspiration, imperceptible pulse, weakness and pain in the chest. The average postoperative fatal embolism occurred on the sixteenth day, while death from post-traumatic embolism occurred on the forty-first day. Of the fifteen patients who died suddenly necropsy disclosed occlusion of the main pulmonary artery and its main branches in four and occlusion of both large branches in five. The remaining nine patients lived from eight minutes to twenty-four hours. If conditions had been favorable, emergency embolectomy could have been performed on five.

Azochloramid for Chronic Indolent Wounds.—Newell used azochloramid in triacetin (1:500) in the treatment of eight large and necrotic wounds. The wounds were indolent in character and most of them complicated by other factors, such as diabetes or vascular disease. Six of the eight presented localized infection. A satisfactory response was obtained in five of the six cases. The character of the granulation tissue changed after a few days from sluggish, gray granulations into a rapidly growing bed of red granulation tissue of healthy appearance. In the sixth case there were signs of irritation on the second day, and the solution was discontinued. In the other two cases the infections were not sufficiently localized and hot saline compresses seemed of greater value. Sterile sponges soaked in this solution, changed two or four times a day, exert a continuous antiseptic action and require a minimum of attention. Other types of therapy previously tried in these cases offered little or no benefit.

Connecticut State Medical Society Journal, Hartford

3: 209-264 (May) 1939

The Physician's Need for Income Protection. P. H. Rogers, Hartford.—p. 221.
Surgical Relief of Intractable Pain. W. J. German, New Haven.—p. 230.
Coccygodynia. E. W. Foster, Meriden.—p. 232.
Active Immunization Against Tetanus. J. I. Linde, New Haven.—p. 233.
Congenital Aplasia of Kidney and Hypoplasia of Spleen: Case Report. C. Barnum and M. R. Moore, New London.—p. 235.
*Pelvirectal Abscess and Retroperitoneal Cellulitis: Report of Three Cases. K. W. Thompson, New Haven, and J. E. Dunphy.—p. 236.
How Towns Can Organize for Health. W. B. Walker, Cornwall.—p. 239.

Pelvirectal Abscess and Retroperitoneal Cellulitis.—Thompson and Dunphy point out that the fatal termination of a case of ischiorectal or perirectal abscess is occasionally caused by a complication sometimes called pelvirectal abscess, which is an extension of the infection above the pelvic diaphragm in the retroperitoneal tissues. At times this infection is not localized as an abscess but as a rapidly spreading cellulitis with extensive invasion of the retroperitoneal spaces. Two cases with this type of retroperitoneal infection seen by the authors and one obtained from the records of the Peter Bent Brigham Hospital illustrate the course and treatment of this disorder. Ordinarily the pelvic diaphragm offers an effective barrier to the upward extension of infection about the anus. However, when the lesion of the intestine is above the pelvic diaphragm or when a fulminating infection with gas-producing organisms extends upward by way of the lymphatics of the middle hemorrhoidal vessels, it is quite possible that an extensive infection of the retroperitoneal spaces of the pelvis and abdomen will occur. In order to prevent this sort of complication, early incision and drainage of ischiorectal abscesses without waiting for localization is advised. Only one patient, in whom early perineal and abdominal drainage was carried out, recovered. This type of spreading retroperitoneal infection causes greater fever and lesser signs of spasm or tenderness of the abdomen than does peritonitis of an equivalent severity. The condition is probably more common than discussion in the textbooks and literature would indicate.

Iowa State Medical Society Journal, Des Moines

29: 185-230 (May) 1939

Anal Pruritus. L. A. Buie, Rochester, Minn.—p. 185.
What Can Be Done About Mental Illness? G. L. Sandritter, Norfolk, Neb.—p. 189.
Primary Carcinoma of Liver with Spontaneous Rupture. A. L. Jenks, L. D. Powell, Des Moines, and D. H. Kaump, Temple, Texas.—p. 193.
Pollen Survey in Ames, Iowa, in 1938. Julia Cole, Ames.—p. 198.
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Importance of Early Treatment of Acute Anterior Poliomyelitis. W. R. Van Duzer, Casey.—p. 204.

Journal of Clinical Investigation, New York

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Yeast as Extrinsic Factor in Relation to Pernicious Anemia. R. W. Heinle and F. R. Miller, Cleveland.—p. 257.
Serologic Differentiation of Obstructive from Hepatogenic Jaundice by Flocculation of Cephalin-Cholesterol Emulsions. F. M. Hanger, New York.—p. 261.
Effect of Sleep on Skin Temperature Reactions in Case of Acrocyanosis. R. Day and W. O. Klingman, New York.—p. 271.
Influence of Foodstuffs on Susceptibility of Liver to Injury by Chloroform, and Probable Mechanism of Their Action. S. Goldschmidt, H. M. Vars and I. S. Ravdin, Philadelphia.—p. 277.
Nature of Leukemic Blood Cells as Determined by Their Metabolism. W. Kempner, Durham, N. C.—p. 291.
Antiketogenic Activity of Succinic Acid. E. M. MacKay, J. W. Sherrill and R. H. Barnes, La Jolla, Calif.—p. 301.
*Immunologic Studies in Patients with Pneumococcus Type III Pneumonia Treated with Sulfanilamide and Serum. M. Finland and J. W. Brown, Boston.—p. 307.
*Effects of Spinal Anesthesia on Circulation in Normal Unoperated Man, with Reference to Autonomy of Arterioles and Especially Those of Renal Circulation. H. W. Smith, E. A. Rovenstine, W. Goldring, H. Chasis and H. A. Ranges, New York.—p. 319.
Elimination of Cholic Acids: IV. In Patients with Liver Diseases. B. Josephson, Stockholm, Sweden.—p. 343.
Origin and Nature of Normal Synovial Fluid. Marian W. Ropes, G. A. Bennett and W. Bauer, Boston.—p. 351.
Simple Method for Determining Systolic Blood Pressure of Unanesthetized Rat. J. R. Williams Jr., T. R. Harrison and A. Grollman, Baltimore.—p. 373.

Sulfanilamide and Serum in Pneumonia.—From November 1937 to May 1938 Finland and Brown studied the immune reactions of a group of patients with pneumococcus type III pneumonia before and during treatment with sulfanilamide and type-specific antipneumococcus rabbit serums used separately or in combination. They also observed the effect of these substances in vitro on the bactericidal action of the blood of the patients taken before treatment. Their conclusions are that sulfanilamide in concentrations of 7 mg. or more per hundred cubic centimeters of blood inhibits the growth of large numbers of type III pneumococci in the blood of individuals with or without pneumonia due to this organism when such bloods lack pneumococcidal activity. The drug probably does not influence phagocytosis in these bloods. It usually exerts no bactericidal effect in a concentration of 10 mg. per hundred cubic centimeters but may do so in greater concentrations. Patients with pneumococcus type III pneumonia, whose blood is bactericidal for pneumococci of the homologous type during the acute stage of the disease and before treatment, usually acquire homologous type-specific agglutinins, mouse protection and phagocytosis after treatment with either sulfanilamide or serum or both. Blood invasion does not occur after treatment in such cases and if death occurs it is usually due to superinfections or to other conditions not directly related to infection with type III pneumococci. In an occasional patient the pneumonia extends in spite of the presence of circulating antibodies and in spite of the absence of bacteremia throughout the disease. Therapeutic antipneumococcus rabbit serums induce pneumococcidal activity in the blood of patients ill with pneumonia due to this type. Antiserum and sulfanilamide used together have a greater bacteriostatic and bactericidal effect than the same amounts of either the serum or the sulfanilamide used separately. The bactericidal promoting property of the antiserum is usually accompanied by demonstrable phagocytosis. In patients whose blood lacks bactericidal properties, treatment with sulfanilamide probably renders the blood bacteriostatic until heat stable specific antibodies develop or until a balance of such antibodies is passively introduced, when the infection is usually overcome. With antiserums in proper amounts, the infection may be overcome without the additional use of sulfanilamide, especially in patients who are not heavily infected. Following treatment with sulfanilamide alone, occasional patients with type III pneumococcus pneumonia recover without developing demonstrable homologous type-specific antibodies. This may occur even if the pneumococcus is recovered from the blood stream.

Renal Circulation During Spinal Anesthesia.—Smith and his collaborators discuss the effects of high spinal anesthesia on the circulation. Twenty-one normal subjects were studied. It is concluded that the renal arterioles are distinctly autonomous in the sense that under basal conditions the renal vascular tone is not affected by anesthetic denervation. The observations further suggest that the arteriolar bed generally (apart from the skin) possesses considerably more autonomy than is usually attributed to it—sufficient in fact, in the normal supine person at rest, to maintain an essentially normal arterial pressure. The authors found no evidence of significant arteriolar dilatation during high spinal anesthesia, such reduction in blood pressure as occurs being attributable, they believe, to diminished circulating blood volume in consequence of the dilatation of the capillaries, venules and veins. Anesthesia to levels considerably above those at which the efferent sympathetic paths to the kidneys emerge from the cord does not produce renal hyperemia, nor does it have any other consistent effect on the renal circulation. The tone of the renal arterioles is normally maintained by autonomous, intrinsic activity of the peripheral vascular apparatus and is not dependent on tonic activity of the central nervous system. It is inferred that (like the renal arterioles) the arterioles of the other splanchnic viscera and probably the skeletal muscles possess sufficient autonomy to maintain a normal blood pressure after denervation, provided the method of denervation is not such as to precipitate severe circulatory disturbance. It is a corollary of this conclusion that there is normally negligible tonic activity in the sympathetic vasomotor paths. The peripheral vasomotor system in man under spinal anesthesia is highly resistant to hypercapnia and anoxemia, which precipitate circulatory collapse in the anesthetized sympathectomized dog and cat and in the anesthetized cervical dog by dilating some as yet undetermined portion of the vascular bed. The absence of important tonic activity in the sympathetic vasomotor paths to the arterioles generally, and to the kidneys especially, refers only to normal man in the resting, basal condition and in the supine position. It remains to be determined to what extent sympathetic activity may be evoked by traumatic excitation, by the assumption of the upright posture, by excitement, in hypertensive disease and the like.

Journal of Experimental Medicine, New York

69: 607-754 (May) 1939

Mode of Action of Sulfanilamide on Streptococcus: II. F. P. Gay, Ada R. Clark, Julia A. Street and Dorothy W. Miles, New York.—p. 607.
Causes of the Cessation of Growth of Fibroblasts Cultivated in Embryo Juice. Lillian E. Baker, New York.—p. 625.
Enhancing Effect of Azoproteins on Lesions Produced by Vaccine Virus, Shope Fibroma Virus and Agent Transmitting Chicken Tumor I. A. Claude, New York.—p. 641.
Studies on Experimental Hypertension: IX. Effect on Blood Pressure of Constriction of Abdominal Aorta Above and Below Site of Origin of Both Main Renal Arteries. H. Goldblatt, J. R. Kahn and R. F. Hanzal, Cleveland.—p. 649.
Studies on Eastern Equine Encephalomyelitis: II. Pathogenesis of the Disease in the Guinea Pig. L. S. King, Princeton, N. J.—p. 675.
Id.: III. Intra-Ocular Infection with Fixed Virus in the Guinea Pig. L. S. King, Princeton, N. J.—p. 691.
Serologic Specificity of Peptides: III. K. Landsteiner and J. van der Scheer, New York.—p. 705.
Blood Plasma Protein Production as Influenced by Amino Acids: Cystine Emerges as Key Amino Acid Under Fixed Conditions. S. C. Madden, W. A. Noehren, G. S. Waraich and G. H. Whipple, Rochester, N. Y.—p. 721.
*Radioactive Iron and Its Metabolism in Anemia: Its Absorption, Transportation and Utilization. P. F. Hahn, W. F. Bale, E. O. Lawrence and G. H. Whipple, Rochester, N. Y.—p. 739.

Radioactive Iron and Its Metabolism in Anemia.—Hahn and his associates determined the absorption, storage and utilization of iron in anemic dogs, using iron containing the radioactive isotope. They found that when there is a distinct need for the element (as in anemia) a fair quantity will pass from the gastrointestinal tract into the blood stream. When the body reserves of iron are ample, little of the iron is assimilated. That the mechanism for this reaction may be dependent on a concentration gradient existing between the gastrointestinal contents and the mesenteric blood is doubtful, since the iron in the blood (in a form other than hemoglobin) is present in

minute amount in any case as compared with the amount in the gastrointestinal tract itself. The curve of iron absorption by the anemic dog indicates that the peak absorption (from four to eight hours after feeding) takes place when the food materials are largely in the small intestine. At the end of from eighteen to twenty-four hours the radioactive iron is practically all in the colon and no significant absorption of iron is demonstrable. It would seem that the colon is not concerned with iron absorption. It is shown that the plasma is the site of transportation of iron from the intestinal tract to the point or points at which it is further utilized. Like many other materials the absorption, as indicated by plasma iron changes, increases shortly after feeding to a peak and drops off quite rapidly. Absorption from a given dose of iron probably is complete in the dog at the end of eighteen hours. If an anemic dog is fed neutral iron, the earliest time at which it appears in the blood stream is from about three to five days, as shown by the erythrocyte surge into the circulation. However, in some of the dogs in their present experiments the authors observed that the radioactive iron found its way into the erythrocytes much sooner; in fact, appreciable amounts are demonstrable in a few hours. The authors point out that discrepancies in iron balance studies in human subjects have sometimes been explained as due possibly to adsorption of iron to the mucosa of the gastrointestinal tract leading to a false impression of positive balance. In two of their dogs in which viviperfusion followed the last feeding of radioactive iron by twenty-three hours, practically all of the iron had been swept through the upper part of the gastrointestinal tract and had either been eliminated or was in the colon. The stomach and small intestine of one of these dogs contained only 0.46 per cent of the total isotope fed, whereas the colon contained 52 per cent. The upper part of the gastrointestinal tract of the other dog contained 0.24 per cent of the amount of radioactive iron fed, while the colon and feces contained 82 per cent. The material fed in each case consisted of iron in the ferric form, which would be expected to show adsorption (if present) to a greater extent than ferrous iron compounds.

Journal-Lancet, Minneapolis

59: 121-184 (April) 1939

Fluoroscopy of Lungs: Method for Diagnosis of Early Tuberculosis. R. H. Stiehm, Madison, Wis.—p. 122.
Tuberculin Reactor and Tuberculosis Control. E. P. Edwards, Cleveland. —p. 126.
*Comparison of Intermediate and the Two Dose Tuberculin Tests. R. I. Canuteson, Lawrence, Kan.—p. 128.
Results of Fluoroscopic Examination of Positive Tuberculin Reactors in Peiping Middle Schools. P. T. Y. Ch'iu, Peiping, China.—p. 131.
Diagnosis of Tuberculosis by the General Practitioner: Use of the Mantoux Test and the X-Ray. E. R. Lowe, South St. Paul, Minn. —p. 132.
The Institute of Phthisiology of Cordoba. A. Chattas, Cordoba, Argentina.—p. 134.
Primary Tuberculosis of Skin. C. W. Laymon, Minneapolis.—p. 136.
Review of Pharmacology of Sulfanilamide. R. N. Bieter, St. Paul.—p. 139.
Surgical Collapse in Treatment of Pulmonary Tuberculosis. F. I. Terrill, Deer Lodge, Mont.—p. 145.
Advances in Thoracic Surgery. R. Davison, Chicago.—p. 150.
Clinical Studies of Primary Carcinoma of Lung: Analysis of Seventy Cases, Twenty of Which Were Treated by Pneumonectomy or Lobectomy. R. H. Overholt and W. R. Rumel, Boston.—p. 155.
Lobectomy and Pneumonectomy for Lung Suppuration and Malignancy: Comprehensive Analysis Including Authors' Series. F. S. Dolley and J. C. Jones, Los Angeles.—p. 162.

Comparison of Tuberculin Tests.—Canuteson reports the results obtained in three years of tuberculin testing covering a total of 4,108 students. An average of 16.94 per cent of positive reactors was isolated with a single intermediate dose and 40.1 per cent with the regular two dose test. The incidence of the adult type of tuberculosis was 0.512 per cent with the intermediate dose and 0.609 per cent by the regular two dose method. There were no four-plus reactions with the small intermediate dose of 0.0002 mg. The incidence of four-plus reactions with the large intermediate dose of 0.0005 mg. was 1.004 per cent and with the routine two dose test it was 0.355 per cent. Retesting the negative reactors to the large intermediate dose with the regular second dose increased the positive reactors in a group of 735 students from 15.37 per cent to 35.51 per cent and the incidence of secondary tuberculosis from 0.54 per cent to 0.68 per cent, representing one additional inactive case. The incidence of secondary tuberculosis determined by use of the smaller intermediate dose of 0.0002 mg. was 0.508 per cent and by the larger intermediate dose of 0.0005 mg. was 0.515 per cent.

Journal of Neurophysiology, Springfield, Ill.

2: 173-256 (May) 1939

The Conditioned Reflex of Blinking. G. Martino, Messina, Sicily.—p. 173.
Phenomenon of Retroactive Facilitation in Electric Excitation of Cutaneous Nervous Branches (Tactile Sensibility). H. Piéron and J. Segal, Paris, France.—p. 178.
Ablations of Frontal Cortex in Cats, with Special Reference to Enhancement of Scratch Reflex. F. K. Bradford, Chicago.—p. 192.
Temperature Regulation in Cats with Thalamic Lesions. G. Clark, H. W. Magoun and S. W. Ranson, Chicago.—p. 202.
Effects of Frontal Lobe Lesions on Temporally Organized Behavior in Monkeys. J. L. Finan, Annapolis, Md.—p. 208.
Relation of Stimulation Time of Receptors to Recovery Time in the Nervous System: Visual, Olfactory and Auditory Senses. C. A. Elsberg and H. Spotnitz, New York.—p. 227.
Anatomy, Physiology and Surgical Considerations of the Spinal Tract of Trigeminal Nerve. A. E. Walker, Chicago.—p. 234.
Time Constant of Excitation and Velocity in Supernormal Phase of Nerve. H. A. Blair, Rochester, N. Y.—p. 249.

Journal of Pharmacology & Exper. Therap., Baltimore

66: 1-132 (May) 1939. Partial Index

Factors Influencing Duration of Local Anesthesia. H. K. Sinha, Edinburgh, Scotland.—p. 42.
Vasodilating Action of Prostigmine. S. Perlow, Chicago.—p. 66.
Influence of Phenol Red and Creatinine on Renal Blood Flow. J. F. Herrick, F. C. Mann, Rochester, Minn., and H. L. Sheehan, Glasgow, Scotland.—p. 73.
Effects of Repeated Anesthetic Doses of Barbiturates: I. Nembutal. R. Hafkesbring, E. Greisheimer and H. Magalhaes, Philadelphia.—p. 95.
Treatment of Gaseous Hydrocyanic Acid Poisoning by Sodium Thiosulfate and Sodium Nitrite Combination. J. N. Etteldorf, Memphis, Tenn.—p. 125.

Journal of Urology, Baltimore

41: 653-830 (May) 1939. Partial Index

Cyst Involving Entire Renal Capsule. S. W. Mulholland, Philadelphia. —p. 653.
Ureteral Obstruction in Children. M. F. Campbell, New York.—p. 660.
Clinical Manifestations of Stricture of Ureter in Women. D. F. Rudnick and E. L. Cornell, Chicago.—p. 679.
Physiologic Bladder Changes During Pregnancy and Puerperium. S. R. Muellner, Boston.—p. 691.
*Sympathetic and Pudendal Neurectomy for Vesical Atony. C. Huggins, A. E. Walker and W. J. Noonan, Chicago.—p. 696.
Differential Diagnosis of Acute Fat Necrosis in Scrotum. F. Hinman and C. M. Johnson, San Francisco.—p. 726.
Visualization and Treatment of Seminal Vesiculitis by Catheterization and Dilation of Ejaculatory Ducts. R. H. Herbst and J. W. Merricks, Chicago.—p. 733.
*Clinical Aspects of Hyperparathyroidism, with Special Reference to Urology. R. Chute, Boston.—p. 762.
Acetylsulfanilamide: Its Absorption, Excretion and Toxicity in Man. N. F. Ockerblad and H. E. Carlson, Kansas City, Kan.—p. 801.
Venereal Disease Control Program in New Jersey. K. M. Scott, Atlantic City, N. J.—p. 820.

Neurectomy for Vesical Atony.—Huggins and his associates discuss the results of section of the principal nerves to the urinary vesical sphincters in eighteen cases of neurogenic atony of the bladder. The diagnosis of vesical atony was made by cystometric study and by clinical, neurologic and cystoscopic examination. The results of the treatment should not be judged until the patient is ambulatory. Apparently marked improvement occurred in four of eleven cases of neurogenic paresis of the bladder, treated by presacral neurectomy, while in four cases the improvement was slight and in three none was demonstrable. In three children with urinary retention with vesical atony but without signs of either somatic nervous disease or urinary obstruction the retention was lessened by presacral neurectomy. Many clinical features in these cases suggested that the condition may have been the urinary tract analogue to congenital megacolon described by Hirschsprung. Good results from presacral neurectomy were obtained in localized lesions of the cauda equina or sacral cord when the lumbar nerves were intact, producing a large amount of residual urine in the bladder, with or without paradoxic incontinence. Sympathectomy was not beneficial when the disease had produced appreciable injury to the pelvic nerve or sphincter with true incontinence and in tabes dorsalis. Following sympathectomy in appropriate cases, emptying of the bladder is produced by straining. The improvement may persist for at least six years after operation. In six cases unilateral pudendal neurectomy with or without presacral neurectomy was followed by a moderate improvement in five

cases. In two cases incontinence of urine was present before operation and this persisted following neurectomy, although less in amount. There was no incontinence in four. There has been no fecal incontinence. A weakened anal sphincter on the ipsilateral side is observed after operation. In one case bilateral pudendal neurectomy with transurethral resection of a small amount of prostatic tissue was followed by nocturnal incontinence, but no diurnal leakage, and a large decrease in the amount of residual urine in the bladder.

Hyperparathyroidism and the Urinary Tract.—Chute points out that at the Massachusetts General Hospital during a period of eight years there was a total of thirty-six cases of hyperparathyroidism in 62,000 hospital admissions. The diagnosis was confirmed at operation and by pathologic examination. Women were affected more than twice as often as men. The average age in the series was 43, the oldest patient being a woman of 62 and the youngest a girl of 12. General symptoms found in hyperparathyroidism are weakness, ease of fatigability and constipation. These are probably due to hypercalcemia, which reduces the tone of nerves and muscles. Polydipsia and polyuria were usually present and were attributed to the increased excretion of calcium and phosphorus in the urine—analogous to the polydipsia, polyuria and glycosuria of diabetes mellitus. The polyuria is sometimes so marked as to suggest diabetes insipidus. In addition to these general symptoms, the predominating complaints in more than half of the thirty-six cases were of urinary tract origin. They are due to calculi and consequent renal damage and may take the form of renal or ureteral colic, bladder irritation, blood and pus in the urine and the like. Sometimes, especially when bilateral generalized calcifications exist throughout the renal parenchyma, the presenting signs and symptoms may be those of kidney failure and uremia. Other somewhat less common special symptoms arise from the decalcification of the skeleton and may take the form of flat feet, weakness of the legs, aches and pains in the bones and joints simulating arthritis or neuritis and loss of weight. Urinary calculi were present in thirty of the thirty-six cases. The calculi were bilateral in 53 per cent and multiple in 73 per cent. They naturally tend to recur, after removal or passage, until the underlying hyperparathyroidism has been remedied. All of the calculi show a lot of calcium and phosphorus on analysis, and in addition most of them show some oxalate and a few show carbonate. The diagnosis rests fundamentally on the demonstration of an elevated fasting serum calcium. The normal value for this is about 10 mg. per hundred cubic centimeters of blood. The average in the thirty-six cases was 13.76 mg. It is well to check all serum calcium estimations by the Sulkowitch test and see whether the two agree. Since hyperparathyroidism is due to excess production by the parathyroids of their hormone, the only satisfactory results, just as in the case of the thyroid, have been obtained by surgical resection of the hyperfunctioning tissue. There was no operative mortality in the author's thirty-six cases. Four patients died later of renal insufficiency due to multiple calculi and one patient died later of coronary thrombosis. While the follow-up period is no longer than six years, so far all have remained clinically free from hyperparathyroidism with essentially normal calcium values. The formation of calculi has ceased and no new calculi have formed in any case to the best of the author's knowledge.

Kentucky Medical Journal, Bowling Green

37: 177-222 (May) 1939

Meningococcic Meningitis. T. M. Marks, Lexington.—p. 177.
Consideration of the Problem of Low Back Pain: The Orthopedic Point of View. W. B. Owen, Louisville.—p. 182.
Low Back and Sciatic Pain from the Standpoint of the Neurosurgeon. R. G. Spurling and F. K. Bradford, Louisville.—p. 183.
Roentgen Ray Examination in Individuals Suffering from Low Back Pain. J. C. Bell, Louisville.—p. 185.
Traumatic Surgery. M. D. Garred, Ashland.—p. 186.
Rocky Mountain Spotted Fever in Kentucky: One Case Report. T. J. Snider, Mount Eden; L. A. Dare, Lawrenceburg, and F. W. Caudill, Louisville.—p. 190.
Functional Cardiac Disorders. W. B. Troutman, Louisville.—p. 192.
Lobar Pneumonia. E. E. Irons, Chicago.—p. 197.
Hyperparathyroidism with Case Report of Pseudohyperparathyroidism and Pseudohyperpituitarism. H. E. Richey, Louisville.—p. 204.
Some Goiter Problems. W. I. Hume, Louisville.—p. 209.
Primary Malignant Tumors of Bone. W. M. Ewing, Louisville.—p. 214.

Maine Medical Association Journal, Portland

30: 91-122 (May) 1939

Cutaneous Burns. G. N. Johnson, Portland.—p. 91.
Acute Hemorrhagic Encephalitis: Report of Case. H. I. Goldman, Freeport.—p. 94.
Ragweed Survey in Maine for 1938. C. B. Sylvester, Portland.—p. 97.

Medical Bull. of Veterans' Adm., Washington, D. C.

15: 333-440 (April) 1939. Partial Index

Cardiovascular Studies in Insulin Shock Treatment. J. Solovay and F. W. Schwarz.—p. 333.
Heart Pain. R. D. Tompkins.—p. 339.
Renal Function Tests. H. C. Manaugh.—p. 351.
Comparative Study of Complement Fixation and Precipitation Tests for Syphilis in 1,000 Cases. J. B. Anderson and E. C. Reed.—p. 354.
*Treatment of Coexisting Syphilis and Pulmonary Tuberculosis. G. D. Guilbert, C. L. Harrington and N. Sedofsky.—p. 358.
Neuropsychiatric Residuals of Carbon Monoxide Poisoning. V. Goodside.—p. 365.
Place of Malaria in Treatment of Neurosyphilis. U. S. Bowen.—p. 369.
Atypical Adult Diphtheria in Otolaryngologic Practice. L. R. Marshall.—p. 373.

Syphilis and Pulmonary Tuberculosis.—Guilbert and his associates report the results of the treatment of syphilis in 118 patients also having pulmonary tuberculosis. Of the sixty-six white patients 65.1 per cent were improved, and of the fifty-two Negro patients 46.2 per cent were improved. From a study of the results the authors believe that the treatment of syphilis in patients with coexisting pulmonary tuberculosis who show a definite tendency toward favorable progress does no harm and is of real benefit. Patients whose prognosis for the tuberculosis is bad probably will receive no benefit from the antisyphilitic treatment. Antisyphilitic treatment in the doses given by the authors showed no predisposition to pulmonary hemorrhage. Patients receiving the maximal dose of neoarsphenamine (0.9 Gm.) seemed to tolerate it as well as those receiving the smaller doses. The type of syphilis in 90 per cent of the series was latent.

Michigan State Medical Society Journal, Lansing

38: 365-460 (May) 1939

Certain Cardiorenal Circulatory Correlations. H. A. Christian, Boston.—p. 381.
Newer Methods of Neuropsychiatric Diagnosis and Treatment. R. R. Grinker, Chicago.—p. 386.
Regional or Segmental Enteritis "Ileitis." H. A. Hanelin, Marquette.—p. 389.
Value of Medical Organization to the Public and the Profession. R. G. Leland, Chicago.—p. 393.
Uterine Leiomyosarcoma with Metastases to the Lungs and Brain: Report of Case and Review of Literature. W. H. Gordon and S. S. Bohn, Detroit.—p. 398.
Hemorrhoidectomy Under Regional Anesthesia. L. J. Hirschman, Detroit.—p. 402.
Pernicious Anemia: Its Prevalence and Adequate Treatment: Review of 223 Cases. W. E. Jahsman, Detroit.—p. 405.
Recent Advances in Blood Transfusion. W. B. Cooksey, Detroit.—p. 409.

Nebraska State Medical Journal, Lincoln

24: 161-200 (May) 1939

Good Papers Gone Wrong. M. J. Breuer, Lincoln.—p. 163.
*Roentgen Treatment of Acute Peritonitis and Infections with Mobile X-Ray Apparatus. J. F. Kelly and D. A. Dowell, Omaha.—p. 164.
Intra-Uterine Stem Pessary and Contraception. L. C. McVay, Omaha.—p. 171.
Urinary Antiseptics, Their Action and Uses. C. McMartin, Omaha.—p. 174.
Before Baby Comes. H. L. Kindred, Meadow Grove.—p. 176.
Encephalitis Types and Treatment. H. A. Wigton, Omaha.—p. 178.
Some Medicolegal Aspects of Heart Disease. B. C. Russum, Omaha.—p. 181.

Roentgen Treatment of Infections.—Kelly and Dowell used a mobile x-ray apparatus in the treatment of eighty-one patients with peritonitis, cellulitis, surgical mumps, gas gangrene and other infections. Of these patients seventy-three are living, giving a mortality of 9.87 per cent. The authors believe that the treatment has been of definite benefit and recommend that it be used by others. If the treatments are given under the direction of an experienced radiologist there are no absolute contraindications. Repeated small doses of from 50 to 70 roentgens morning and evening for from three to five days during the height of the infection are recommended. The correct technical factors must be prescribed by the radiologist so that the total dosage given is under the minimum which might damage the skin. Some filter should be used at all times. The

kilovoltage should be sufficient to penetrate the involved area thoroughly: from 90 to 135 kilovolts. Sufficient ports should be used so that all involved tissues and adjacent suspected areas are covered. The distance is 15 inches (40 cm.). The reason for treating twice a day, which the authors insist on, is based on the observation that the results in the treatment of infections were better when the space factor or time between treatments approximately coincided with the rate of growth (on culture mediums or by clinical estimation) of the causative organism.

New Orleans Medical and Surgical Journal

91: 581-644 (May) 1939

The Doctor in Court. I. Cohn, New Orleans.—p. 584.
Medical Jurisprudence. P. H. Ringer, Asheville, N. C.—p. 594.
Postural Defects in Elementary School Children. G. A. Caldwell, New Orleans.—p. 601.
Surgery of Acute Cholecystitis. M. Gage, New Orleans.—p. 607.
Erythroblasts in Chorionic Blood Vessels of Human Embryos: Their Importance in Estimating Duration of Pregnancy. B. Halpert and J. Stasney, New Orleans.—p. 620.

Ohio State Medical Journal, Columbus

35: 481-576 (May) 1939

Prognosis and Management of Heart Disease and Pregnancy. H. C. King, Lakewood.—p. 497.
Notes on Goiter Patients: Management of "Thyroid Crises" and Atypical Hypothyroidism. W. M. Skipp, Youngstown.—p. 502.
Studies in Human Parathyroid Gland Transplantation. B. C. Houghton, K. P. Klassen and G. M. Curtis, Columbus.—p. 505.
Planography (Body Section Radiography) Its Application to Thoracic Therapeutics. W. C. Breidenbach, Dayton.—p. 509.
Care and Treatment of Traumatic Eyes. M. E. Scott, Massillon.—p. 512.
Basal Skull Fractures Involving the Petrous Bone (Ear). A. P. Hofmann, Cincinnati.—p. 515.
Evipal Soluble: Intravenous Anesthetic. Mildred White Gardiner, Middletown.—p. 519.
*Use of Sulfanilamide in Acute Mastoiditis of Streptococcic Origin. W. A. Noble, Lima.—p. 521.
Status of Oral Pollen Therapy of Hay Fever and Asthma. J. Forman, Columbus.—p. 522.

Sulfanilamide in Acute Streptococcic Mastoiditis.—According to Noble, the use of sulfanilamide was successful in all but one of twenty-four cases of acute mastoiditis. The infection in all but one was due to Streptococcus haemolyticus. In the exception it was due to Streptococcus viridans. There was a history of previous attacks of otitis media in ten of the cases. A history of measles preceding the otitis media was given by five patients, with scarlet fever as a predisposing cause by one. A bilateral mastoidectomy was necessary in only one case. Three of the twenty-four patients had acute recurrent trouble from three to six months after the simple mastoidectomy, which necessitated myringotomy and incision of the mastoid wound. The average number of days in the hospital following the simple mastoidectomy for the entire group was eleven and one-sixteenth days. There was complete recovery of all but one patient, who died of acute purulent meningitis (Streptococcus viridans) and diabetes mellitus.

Pennsylvania Medical Journal, Harrisburg

42: 849-1008 (May) 1939

Medical Measures of Value in Treatment of Gastrointestinal Diseases. A. H. Aaron, Buffalo.—p. 861.
Tumors of Upper Urinary Tract. E. Hess, Erie.—p. 868.
Primary Carcinoma of Lung. J. B. Flick and J. T. Bauer, Philadelphia.—p. 873.
Pulmonary Embolism: Review of Recent Contributions. J. H. Gibbon Jr., Philadelphia.—p. 877.
The Newer Insulins. J. T. Beardwood Jr., Philadelphia.—p. 881.
Cesarean Section: Analysis of 1,322 Cases. J. R. Eisaman and J. M. Cook, Pittsburgh.—p. 885.
Intubation Studies of Human Small Intestine. XI: Practical Points in Treatment of Acute Obstruction. W. O. Abbott, Philadelphia.—p. 890.
Cancer of Cervix of Uterus. D. B. Ludwig, Pittsburgh.—p. 894.
Renal Infections of Pregnancy and Puerperium. L. Herman and C. W. Muckle, Philadelphia.—p. 899.
Indications for Surgical Intervention in Cholecystic Disease. J. H. Alexander, Pittsburgh.—p. 904.
Paraffin Film Treatment of Burns of Eyelids. G. H. Shuman, Pittsburgh.—p. 907.
Evaluation of Thin-Window Bactericidal Lamp. A. Fisher, McKeesport.—p. 910.
Diagnosis and Treatment of Glaucoma. W. I. Lillie, Philadelphia.—p. 913.
Study of Prophylaxis of Poliomyelitis. E. W. Stitzel, Altoona.—p. 917.
Management of Syphilis in Newborn and During Early Childhood. N. R. Ingraham Jr., Philadelphia.—p. 920.
Review of Eight Different Lesions of Appendix Clinically Called Chronic Appendicitis. B. J. McCloskey, Johnstown.—p. 926.

Psychoanalytic Quarterly, Albany, N. Y.

8: 139-278 (April) 1939

Unconscious Phantoms in Neurotics. F. Wittels, New York.—p. 141.
Problems of Psychoanalytic Technic. O. Fenichel, Los Angeles.—p. 164.
Psychoanalytic Case Records. L. J. Saul, Chicago.—p. 186.
Certain Problems of Female Sexual Development. K. Eissler, Chicago.—p. 191.
Penis Envy and Urinary Control, Pregnancy Fantasies and Constipation: Episodes in Life of Little Girl. W. G. Barrett, Boston.—p. 211.
Controversy About Technic. C. M. Herold, New York.—p. 219.

Rocky Mountain Medical Journal, Denver

36: 289-368 (May) 1939

Lesions of Esophagus. C. H. Darrow, Denver.—p. 306.
Treatment of Benign Menorrhagia and Metrorrhagia, with Special Reference to Radium Therapy. H. H. Bowing and R. E. Fricke, Rochester, Minn.—p. 311.
Present Status of Contagious Diseases of Childhood: Prevention and Treatment. F. P. Gengenbach, Denver.—p. 315.
Biliary Flush as Aid in Surgical and Nonsurgical Management of Biliary Tract Disease. R. R. Best, Omaha.—p. 319.
Tuberculosis and the Socialization of Medicine. H. C. Graves, Grand Junction, Colo.—p. 323.
How Can the Colorado Hospital Association Help the Small Outlying Hospitals? Lulu Noess, Alamosa, Colo.—p. 326.

South Carolina Medical Assn. Journal, Greenville

35: 113-134 (May) 1939

X-Ray Treatment of Infections. C. R. F. Baker, Sumter.—p. 113.
Coronary and Myocardial Syphilis. J. C. Norris, Atlanta, Ga.—p. 116.
Detached Retina and Spindle Cell Sarcoma of Choroid: Case Report. E. W. Carpenter, Greenville.—p. 118.

Southern Medical Journal, Birmingham, Ala.

32: 451-564 (May) 1939. Partial Index

*Chronic Brucellosis. R. M. Calder, San Antonio, Texas.—p. 451.
Fundamentals in the Eradication of Syphilis. E. G. Clark, Nashville, Tenn.—p. 460.
Simplified High Carbohydrate Diet in Diabetes Mellitus. S. Harris Jr., Birmingham, Ala.—p. 467.
Juvenile Rheumatism. C. M. Pounders and J. K. Gray, Oklahoma City.—p. 471.
Acute Confusional States of Old Age: Their Interpretation and Treatment. G. W. Robinson Jr., Kansas City, Mo.—p. 479.
Endometriosis: Review of Incidence in 1,453 Abdominal Pelvic Operations at St. Anthony Hospital, 1935-1937, with Particular Reference to Identification and Treatment. W. Long and W. E. Strecker, Oklahoma City.—p. 489.
*Estrogenic Hormone Therapy in Sunlight Eruptions of the Female. A. H. Lancaster, Knoxville, Tenn.—p. 495.
Effect of Testosterone Propionate on Spermatogenesis in the Human. H. S. Rubinstein and A. A. Kurland, Baltimore.—p. 499.
Paralytic Ileus and Intestinal Obstruction Complicating Skeletal Injuries. T. G. Orr, Kansas City, Kan.—p. 508.
Chest Injuries Following Automobile Accidents. J. D. Rives and H. R. Kahle, New Orleans.—p. 512.
Posterior Bone Block in Talipes Equinus: Some Factors Determining the End Results. W. B. Carrell and H. M. Childress, Dallas, Texas.—p. 528.
Air Injection (Pneumarthrography) as Aid in Diagnosis of Industrial and Athletic Injuries of Knee Joint. A. S. Hamilton, Monroe, La.—p. 533.
Management of Inoperable Prostatic Carcinoma. E. Burns, New Orleans.—p. 553.

Chronic Brucellosis.—During a period of three years Calder examined nearly 1,300 chronically ill subjects for brucellosis by the Foshay antiserum cutaneous test and opsonocytophagic and agglutination reactions. In more than half of the cases laboratory examinations have been adequate to exclude numerous diagnostic possibilities. Tuberculosis, which might account for the clinical picture, was excluded in most instances by x-ray examination. That each of the three reactions is a specific result of Brucella invasion is shown by the fact that: 1. Each of the tests is positive in a significantly higher percentage of patients with symptoms of chronic brucellosis than in those who are normal or ill with other infectious diseases or with afebrile illness of known etiology. 2. The mass symptomatology of 550 consecutive subjects showing a positive cutaneous test is strikingly similar to that of patients in whom the diagnosis of brucellosis was established by culture or agglutinations. 3. The blood picture in these cases, characterized by active lymphocytosis, hyperchromia and macrocytosis, is definitely abnormal and is duplicated in its entirety by few if any other infectious processes. 4. Finally, when patients with positive tests are subjected to specific treatment approximately 80 per cent of them are cured symptomatically; and this subjective response is almost invariably accompanied by the development of a high titer of opsonins specific for Brucella. The present analysis indicates that if any two of these tests are positive the

chances are about seventy to one that the clinical symptoms will be found compatible with a diagnosis of brucellosis. It would appear good practice, therefore, not to place sole reliance on any one of the tests but to perform all three and to interpret the results in the light of the clinical picture. If other possibilities are excluded, selection of cases by these criteria and treatment with oxidized Brucella abortus antigen (Foshay) will result in an apparent arrest of the infection in a gratifying number of cases.

Estrogen Therapy and Photosensitivity.—In studying a group of six female patients affected with photogenic dermatitis Lancaster eliminated any of the known photosensitizing drugs by careful investigation. There was a definite history of menstrual disturbance in the five adults, most of whom had a history of menstrual disturbance preceding the dermatitis, but in two the dermatitis preceded the menstrual disturbance two and three years respectively. Most of the married women studied gave a history of sterility. Many gave a clinical history of symptoms long recognized as being associated with estrogenic deficiency and these symptoms were benefited by its administration. Improvement in the dermatitis and menstrual disturbance appear to parallel each other. In the younger adults in whom the menstrual disturbance preceded lowered tolerance to sunlight, correction of the menstrual disturbance has been accompanied by a permanent restoration of tolerance to sunlight. But in those in which the dermatitis preceded the menstrual disturbance it has been necessary to give injections at variable intervals, depending on the appearance of the dermatitis. Even though endocrine therapy is mostly speculative the author is of the opinion that there is a definite estrogenic deficiency in female patients suffering with photogenic dermatitis. He is thoroughly convinced that estrogen has a definite place in the management of sunlight eruptions in women and that, judiciously used, it will aid in the solution and management of the allergic patient.

Surgery, St. Louis

5: 653-812 (May) 1939

Complete Tears of the Perineum: Preparation, Operative Technic and Treatment After Operation. C. H. Tyrone, New Orleans.—p. 653.
Agglutinins in Serum and Bile of Dogs Following Cholecystitis Produced by Injections of Typhoid Bacilli. J. A. Sterling, Philadelphia.—p. 663.
Intestinal Obstruction Caused by Gallstones. E. G. Wakefield, P. M. Vickers and W. Walters, Rochester, Minn.—p. 670.
Cholecysto-Enteric Fistulas. E. G. Wakefield, P. M. Vickers and W. Walters, Rochester, Minn.—p. 674.
Ludwig's Angina: Anatomic and Clinical Study with Review of Literature. M. Grodinsky, Omaha.—p. 678.
The Surgery of the Temporomandibular Joint. C. P. G. Wakeley, London, England.—p. 697.
*Treatment of Thrombophlebitis of Deep Veins of Lower Extremities with Intermittent Venous Occlusion: Preliminary Report. J. R. Paine and G. Levitt, Minneapolis.—p. 707.
Effect of Intravenous Hypertonic Sugar Solutions on Traumatized Tissues. W. R. Hill and E. P. Lehman, University, Va.—p. 720.
Treatment of Acute (Nontuberculous) Empyema by Irrigation and Negative Tension: Preliminary Report. L. A. Hochberg and P. Fiore, Brooklyn.—p. 725.
Specific Gravity of Pus in Empyema. H. E. Pearse, Rochester, N. Y.—p. 733.
Lymphopathia Venerea and the Frei Test. M. K. Knight, Amarillo, Texas.—p. 736.
Elimination of Pain Following Hemorrhoidectomy. G. W. Ault, Washington, D. C.—p. 755.
Major Operations in Elderly Patients. F. W. Rankin and C. C. Johnston, Lexington, Ky.—p. 763.
Review of Wound Healing and Mechanics of Dehiscence. J. D. Norris, New York.—p. 775.
*Use of Sulfanilamide in Surgery of Colon and Rectum: Preliminary Report. J. H. Garlock and G. P. Seley, New York.—p. 787.

Thrombophlebitis and Venous Occlusion.—Paine and Levitt report four cases of thrombophlebitis of the lower extremities of recent origin and seven cases with a duration of two months or longer treated with intermittent venous occlusion at the University of Minnesota Hospitals. The immediate results have been so striking that, despite the lack of adequate controls and follow-up study, they are reported. After establishing a diagnosis of thrombophlebitis on the basis of history and physical examination, the patients were treated continuously for three or four hours a day five or six days a week with intermittent venous occlusion. During each period of treatment, patients were kept recumbent with the lower extremities slightly elevated. Venous occlusion was produced by wrapping a rubber bag 6 inches wide and 24 inches long round the midthigh and holding it in place with a loosely applied elastic bandage. This bag was then inflated with air to from 70 to 80 mm. of mercury for two minutes. This period of inflation was followed by a period of deflation of equal length during which a slight negative pressure was maintained within the rubber bag. The pressure and time relationships probably fall within the optimal range for the production of reactive hyperemia. Three of the patients were hospitalized and in bed and the other eight were ambulatory. The pain, discomfort and tenderness present in the affected extremity were relieved in each case. In some instances this occurred after only a few hours of treatment, but in certain cases twenty or more hours was required to accomplish the same result. The edema in certain cases was unquestionably decreased a great deal, in others improved somewhat and in still others unaffected. If improvement did occur, a certain order of events occurred. Induration, if present, decreased first. The skin and subcutaneous tissues became softer and more pliable. The subjective stiffness of the joints improved as the induration decreased in six of the seven cases in which it was present. In certain cases improvement in the edema progressed no further than this, no actual decrease in the size of the leg being demonstrable.

Sulfanilamide in Surgery of Colon and Rectum.—In order to reduce the incidence of postoperative peritonitis, Garlock and Seley tried using sulfanilamide preoperatively as a prophylactic measure in twenty-one consecutive cases in which operation was performed for diseases of the colon and rectum. There were two deaths. One death followed an obstructive resection for carcinoma of the splenic flexure. This patient experienced an uneventful convalescence until the seventh day, when he suddenly went into collapse and died within five minutes. Clinically, either a pulmonary embolism or a coronary artery occlusion was suggested. There was no postmortem examination. The second patient had an abdominoperineal resection for carcinoma of the rectum in one stage. His postoperative course was uneventful until the fifth day, when pulmonary edema developed quite suddenly. The clinical picture suggested coronary artery disease. Death occurred within six hours and at necropsy a fulminating tracheobronchitis and bronchopneumonia were observed. The peritoneal cavity was perfectly clean, as was also the perineal wound. The colostomy had been functioning properly. The authors discuss the condition of some of the other patients. There was a major wound infection in only one case and this was expected. This patient had an obstructive resection for a perforated carcinoma of the sigmoid with a perisigmoidal abscess, and gross soiling of the wound and adjacent peritoneum occurred during the operative manipulations. Yet, in spite of this, convalescence was remarkably smooth. In another case of obstructive resection of the sigmoid a small stitch abscess developed. In a third case a mild infection of the posterior wound developed following an abdominoperineal operation. In two cases of abdominoperineal resection for carcinoma of the rectum, the rectum was accidentally opened during the perineal part of the operation and gross spilling occurred. Yet no infection developed and convalescence was uninterrupted. In one case of carcinoma of the rectum with considerable fixation to the posterior vaginal wall a two stage Lahey operation was performed, and during the second stage an abscess between the tumor and the vaginal wall was entered and gross soiling of the peritoneum occurred. The operation was continued and a new pelvic peritoneal diaphragm was reconstructed. Except for a temporary mental upset attributed to the spinal anesthesia, convalescence was uneventful. There was no infection of either the anterior or posterior wounds. Cultures of Bacillus coli were obtained at the time of the operation. A smooth uncomplicated convalescence ensued in these cases in spite of the fact that there have been no changes in operative technic. The improvement in postoperative morbidity and mortality therefore can be ascribed only to the sulfanilamide. The routine preoperative preparation includes, in addition to a low-residue diet, dextrose, transfusions when necessary, and the administration of 1 Gm. of sulfanilamide by mouth every four hours day and night for three days before operation. After a careful evaluation of the clinical course of this group the authors find that the postoperative period has

been singularly uncomplicated, the morbidity has been unusually slight and peritonitis has been nonexistent. Streptococcus haemolyticus was not recovered postoperatively in any of the cultures. The impression gained is that the results obtained so far warrant a continuation and extension of this study.

Surgery, Gynecology and Obstetrics, Chicago

68: 851-978 (May) 1939

Experiences with Employment of Suction in Treatment of Acute Intestinal Obstruction: Reiteration of Indications, Contraindications and Limitations of the Method. O. H. Wangensteen, C. E. Rea, B. A. Smith Jr. and H. C. Schwyzer, Minneapolis.—p. 851.
*Prevention of Maternal and Infant Anemia. R. Gottlieb and G. J. Strean, Montreal.—p. 869.
Mural Penetration of Carcinoma Cell in the Colon: Anatomic and Clinical Study. W. C. Simpson and C. W. Mayo, Rochester, Minn.—p. 872.
Influence of Vitamin D on Bone Repair: Healing of Fractures of Rachitic Bones. E. L. Compere, B. Hamilton and Margaret Dewar, Chicago.—p. 878.
Studies of the Analeptics: I. Coramine. R. W. Whitehead and W. B. Draper, Denver.—p. 892.
Cervical Stump Carcinoma. Marion E. Black, Cleveland.—p. 898.
Unusual Lesions of Muscles and Tendons of Shoulder Girdle and Upper Arm. E. L. Gilcreest and P. Albi, San Francisco.—p. 903.
Suprapubic Prostatectomy. A. Jacobs, Glasgow, Scotland.—p. 918.
Immediate Full Thickness Grafts to Fingertips. J. V. Reed and A. K. Harcourt, Indianapolis.—p. 925.
The Dermigraft. S. R. Dean, Newtown, Conn.—p. 930.
Diaphragmatic Injury Complicating Nephrectomy: A Method of Closure. S. A. Vest, Baltimore.—p. 932.
Fibroma of Middle Metacarpal Bone: Resection and Reconstruction. D. H. Levinthal and J. D. Kirshbaum, Chicago.—p. 936.
New and Safer Method of Citrated Blood Transfusion. A. Hustin and A. Dumont, Brussels, Belgium.—p. 940.
Effect of Lipiodol in Subarachnoid Space. H. A. Brown and J. L. Carr, San Francisco.—p. 945.
Carcinoma of Bartholin's Gland: Report of Case of Squamous Cell Epithelioma. E. A. Simendinger, Cincinnati.—p. 952.
Parasagittal Meningiomas: Operative Technic Suggested for Exposure. J. L. Poppen, Boston.—p. 957.

Prevention of Maternal and Infant Anemia.—Gottlieb and Strean believe that both the maternal anemia and the anemia of infants, which usually develop in the first year of life in infants of anemic mothers, can be prevented by prophylactic iron therapy. They found ferrous sulfate in combination with vitamin B complex to be most effective without greatly upsetting the gastrointestinal tract. They state that the development of an iron deficiency during pregnancy is easy to understand, since the fetus not only develops its own blood supply during intra-uterine life but actually develops a polycythemia during its prenatal stage, to overcome the normal degree of anoxemia in which it has to live before birth. The iron for the production of hemoglobin must be supplied from the iron storage of the mother. The greater polycythemia in the fetuses of anemic untreated mothers is essential for the maintenance of the oxygenation of the fetal tissues, but the iron storage of these fetuses is apparently deficient and the infant obviously cannot maintain its normal erythrocyte and hemoglobin level during the first year of its most rapid growth and development. Prophylactic iron therapy might prevent many maternal complications and the infant mortality might be reduced.

Virginia Medical Monthly, Richmond

66: 255-316 (May) 1939

Clinical Study of Therapeutic Usefulness of Mandelic Acid. A. I. Dodson and P. W. Oden, Richmond.—p. 255.
So-Called Spontaneous Subarachnoid Hemorrhage with Transient Hemiparesis, Aphasia and Psychosis: Report of Case. P. G. Hamlin, Cambridge, Md.—p. 257.
Treatment of Hemangiomas and Lymphangiomas in Infants and Children. F. M. Hodges, L. O. Snead and R. A. Berger, Richmond.—p. 263.
Streptococcic Meningitis of Otogenic Origin with Recovery: Case. A. T. Hawthorne, Winchester.—p. 267.
Current Trends in Treatment of Chronic Arthritis. W. H. Higgins, Richmond.—p. 269.
Management of Organic Foreign Bodies in Trachea and Bronchi of Children. E. G. Gill, Roanoke.—p. 275.
Observations on Therapeutic Effects of Nicotinic Acid in Pellagra and Related Conditions. E. C. Toone Jr., Richmond, and J. L. Berkley, Charleston, W. Va.—p. 282.
Hydrocephalus of Fetus Complicating Pregnancy: Report of Two Cases. R. B. Nicholls, Norfolk.—p. 288.
General Care of a Diabetic. W. R. Jordan, Richmond.—p. 291.
Malignant Keratomalacia: Case. C. W. Trexler, Honolulu, Hawaii.—p. 293.
Diagnosis of Syphilis. L. T. Price, Richmond.—p. 294.
Cervical Dystocia. A. T. Walker, Portsmouth.—p. 300.
Functional Gastrointestinal Disease. H. G. Hudnall, Covington.—p. 302.

Yale Journal of Biology and Medicine, New Haven

11: 409-580 (May) 1939. Partial Index

Cordotomy for Thalamic Pain: Case Report. F. Turnbull, Vancouver, B. C.—p. 411.
*Surgical Treatment of Hypersensitive Carotid Sinus Reflexes: Report of Thirteen Cases. W. M. Craig and H. L. Smith, Rochester, Minn.—p. 415.
Aneurysm of Intracranial Carotid Artery Treated Surgically. E. F. Fincher, Atlanta, Ga.—p. 423.
Surgical Treatment of Hydrocephalus Associated with Spina Bifida. A. D'Errico, Dallas, Texas.—p. 425.
Drainage of Third Ventricle by Transfrontal Approach in Obstructive Hydrocephalus. J. C. White, Boston.—p. 431.
Surgical Treatment of Hypertension: Preliminary Report of Method of Study and Results in 264 Cases. S. Braden and E. A. Kahn, Ann Arbor, Mich.—p. 449.
Athetosis. T. J. Putnam, Boston.—p. 459.
Explanation for Ribbing Seen in Walls of Dilated Cerebral Ventricles. C. G. Dyke and L. M. Davidoff, New York.—p. 485.
Goblet Cells in Colloid Cyst of Third Ventricle. E. Campbell and J. L. Schwind, Albany, N. Y.—p. 501.
Brief Consideration of Present Status of So-Called Pituitary Basophilism, with Tabulation of Verified Cases. Louise Eisenhardt and K. W. Thompson, New Haven, Conn.—p. 507.
*Interpretation of Functions of Frontal Lobe Based on Observations in Forty-Eight Cases of Prefrontal Lobotomy. W. Freeman and J. W. Watts, Washington, D. C.—p. 527.
Experimental Induction of Neurotic Reactions in Man. L. S. Kubie, New York.—p. 541.
Factors in Neural Bases of Intellect and Emotion. R. M. Brickner, New York.—p. 547.

Treatment of Hypersensitive Carotid Sinus Reflexes.—Craig and Smith divide the treatment of hyperactive carotid sinus reflexes into three groups: 1. When the symptoms are mild and the attacks occur at infrequent intervals, no treatment is required other than reassurance. 2. When the symptoms are moderately severe and the attacks occur more frequently the patient should be instructed to avoid turning his head quickly, looking upward and stooping suddenly. He should avoid any constriction about the neck. If the spells are quite severe and occur at intervals sufficiently close to interfere with the patient's work or activity, medication is indicated. In the authors' experience drugs have not been particularly satisfactory, but of the many drugs used their results have been best with phenobarbital. 3. When the attacks are severe and a thorough medical course of treatment has been carried out without success, operation is indicated in selected cases. They believe the results that they obtained in thirteen cases justify surgical intervention. One patient's subsequent course could not be followed. In the remaining twelve cases the results were excellent in four, good in one, fairly good in four and poor or failures in three. Since medical treatment is not particularly satisfactory and because of the severity of the disease, in some instances totally disabling the patient, surgery is indicated in certain cases. The operation does not entail a great surgical risk. More cases should be chosen for operation and the results studied further, but the results justify continuation of denervation of the carotid sinus in certain instances.

Functions of Frontal Lobe.—During the last three years Freeman and Watts studied forty-eight patients who have been subjected to prefrontal lobotomy because of certain disabling neurotic and psychotic states. The operation is not a shocking procedure and is relatively painless, so that the authors have been able to carry out a number of observations while the patients were under local anesthesia. The more cooperative patients have undergone fairly comprehensive psychologic tests both before and at intervals after the operation, so that both the immediate and the remote effects of the operation are known. The authors conclude that the frontal lobes are concerned with the projection of the individual-as-a-whole into the future, with the formation of an image of the individual-as-he-is-becoming. The other suggested functions appear to be mechanisms by which this is attained. Many of the symptoms of frontal lobe disease can be explained on the basis that the individual has lost his power of self criticism, is more easily satisfied, is lacking in "social sense" and has had an impairment of his imagination as related to himself. The frontal lobes are not centers of intelligence or of emotion, nor are they directly concerned with the energy drive of the individual. They assemble the available data, synthesize them, plan a course of action with the ideal in mind and, equipped with energy of response and with appropriate affective tone, project the individual into the future, direct him toward his goal—and criticize his shortcomings.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Australian J. Exper. Biol. and M. Science, Adelaide

17: 1-92 (March) 1939. Partial Index

Serologic Study of Haemophilus Influenzae: II. Two Serologically Active Protein Fractions Isolated from Pfeiffer's Bacillus. A. E. Platt.—p. 19.

Studies on Hemolytic Streptococci from Human Sources: II. Differentiation of Group A (Lancefield) Organisms into Serologic Types (Griffith). G. V. Rudd, C. White and H. K. Ward.—p. 25.

Relationship of Herpes and B. Viruses: Immunologic and Epidemiologic Considerations. F. M. Burnet, Dora Lush and A. V. Jackson.—p. 41.

Note on Cultural Test for Group A Hemolytic Streptococci. H. K. Ward and G. V. Rudd.—p. 77.

Vitamin A and Vitamin D Contents of Mutton Bird Oil. W. Davies.—p. 81.

Serologic Relationship of Myxoma and Shope's Fibroma Viruses. Dora Lush.—p. 85.

British Journal of Dermatology and Syphilis, London

51: 151-196 (April) 1939

Treatment of Skin Diseases with Grenz Rays. H. Jungmann.—p. 151.

Some Skin Diseases Affecting the Butcher, Farm Worker or Tanner. M. Bolam.—p. 166.

British Journal of Radiology, London

12: 193-256 (April) 1939

Radiology in Pregnancy. J. B. Hartley.—p. 193.

Some Aspects of Renal Radiology. G. Vilvandré.—p. 215.

Megaduodenum and Gastromegaly. H. W. Gillespie.—p. 221.

*Diagnosis of Schüller-Christian's Disease. A. Schüller.—p. 225.

Bronchography in Children: Method of Introduction Under General Anesthesia. H. E. S. Pearson and H. L. Thornton.—p. 229.

Estimation of the "Quality" of Depth Radiations in Gamma-Ray Therapy by Means of Ionization Produced in Chambers with Wall Materials of Different Atomic Numbers. C. W. Wilson.—p. 231.

X-Rays in Study of Pictures. F. I. G. Rawlins.—p. 239.

Protective Materials in Use of Radium Surface Applicators. J. E. Roberts.—p. 246.

Diagnosis of Schüller-Christian's Disease.—Schüller cites three cases which demonstrate that x-ray examination of the skull in cases of Schüller-Christian's disease can show hyperostotic osseous changes. This symptom, which corresponds to the healing stage of the xanthomatous process in the bone, might be of some value for the diagnosis. The symptoms, as a rule, begin in the skeleton, especially in the skull. Roentgenograms of the skull taken at this time show multiple defects at the vault and at the base of the skull, the orbital walls or the lower jaw. The x-ray examination must include all other bones, especially the pelvis and ribs. A roentgenogram of the lungs may show a diffuse infiltration with miliary nodules. Important anomalies are seen on the skin in many cases; xanthelasma of the eyelids, xanthomatous or seborrheic efflorescences of the skin may be found. Finally, the excellent therapeutic effect of x-rays on the xanthomatous process may help in the diagnosis. Mistakes in the diagnosis of Schüller-Christian's disease are not uncommon, especially in the early stages of the disease. The multiple defects of the skeleton may be mistaken for syphilis, tuberculosis, malignant disease, myeloma, osteitis fibrosa cystica or suppurative osteomyelitis. A wrong diagnosis of xanthomatosis may be made in cases of meningocele spuria traumatica. The large transparencies of the calvarium seen in cases first described as "circumscribed osteoporosis of skull" (corresponding as a rule to incipient Paget's disease) can also be mistaken for xanthomatosis.

British Medical Journal, London

1: 707-758 (April 8) 1939

Mechanism of Peptic Ulceration: Review of Results of Experimental Investigation. F. C. Mann.—p. 707.

Treatment of Gonorrhea by Sulfapyridine. F. J. T. Bowie, T. E. Anderson, A. Dawson and J. F. Mackay.—p. 711.

*Sulfanilamide in Treatment of Measles. T. Anderson.—p. 716.

*Para-Benzylaminobenzenesulfonamide in Prevention of Measles Complications. J. C. Hogarth.—p. 718.

Severe Epistaxis, Difficult to Control. E. D. D. Davis.—p. 721.

Sulfanilamide for Measles.—Between December 1937 and March 1938 Anderson treated sixty-three measles patients with sulfanilamide. During this same period a control group of sixty-two patients received only the usual nursing and medical treatment. The dosage of the drug varied with the age of the patient. If the patient was less than 5 years of age 0.25 Gm. was administered at intervals of four hours for ten days, followed by 0.25 Gm. three times a day until dismissal; those more than 5 years of age received 0.5 Gm. at the same intervals and for a like period. Apart from the drug the two groups received strictly comparable treatment. All patients were given on admission 4,000 units of diphtheria antitoxin as a prophylactic procedure. All were under the clinical care of one person, so that individual variations in assessment or diagnosis were overcome. Sulfanilamide had little effect in shortening the febrile period after admission to the hospital. There was a slight reduction in the mean duration in the sulfanilamide-treated cases. The results do not suggest that sulfanilamide is of great value in hastening the cure of the major complications of measles. The duration of bronchopneumonia, however, was materially less in patients who received sulfanilamide. In the control group a total of forty-seven complications developed in thirty cases while in the sulfanilamide group twenty-three complications developed in twenty-two cases. The average stay in the hospital of the control group was 26.5 days; in the sulfanilamide group, 25.6 days. Four deaths occurred in the series, one in the control group and three in the sulfanilamide group.

Sulfanilamide Compound for Prevention of Measles Complications.—To half of 329 patients with measles receiving the usual routine treatment such as fresh air, simple drugs and a prophylactic dose of antitoxin Hogarth gave para-benzylamino-benzene sulfonamide in accordance with a fixed scheme of dosage. The total complication rate in the control patients not receiving the sulfanilamide compound was 15.3 per cent, as against 10 per cent among those who received it. Close scrutiny reveals that the results were not equally good with all complications, the incidence of enteritis apparently being quite unaffected by the drug. With regard to other complications, it is inferred that the drug has prophylactic value, as the incidence of bronchopneumonia, acute otitis media and cervical adenitis was less than that of the controls. Therefore there is evidence that the drug is of value in reducing the incidence of complications due wholly or in part to secondary invasion by hemolytic streptococci, the best results being obtained in pure streptococcic complications such as otitis media.

Lancet, London

1: 741-802 (April 1) 1939

*Aerial Spread of Streptococcic Infections. R. Cruickshank and G. E. Godber.—p. 741.

Rare Feature of Ramsay Hunt Syndrome with Some Observations on Sensory System of Seventh Nerve. C. P. G. Wakeley and J. H. Mulvany.—p. 746.

Shipway Machine and Closed Circuit Anesthesia. F. B. Mallinson.—p. 750.

*Postoperative Thrombosis and Embolism: Report of Trial of Ephedrine and Atropine as Prophylactic. R. Pilcher.—p. 752.

*Pneumococcic Meningitis Treated with Sulfapyridine. D. McAlpine and G. C. Thomas.—p. 754.

Staphylococcic Septicemia Treated with Sulfapyridine. Report of Case. H. J. Wade.—p. 756.

Air-Borne Streptococcic Infections.—Bacteriologic and epidemiologic studies of institutional outbreaks of puerperal sepsis and streptococcic infections among children in diphtheria wards have convinced Cruickshank and Godber that air-borne pathogenic bacteria can be an important factor in the spread of infection. Cleansing of the polluted air by free ventilation and the removal of infected dust by damp sweeping and dusting are two simple and probably effective measures for the prevention of air-borne streptococcic infection.

Postoperative Thrombosis and Embolism.—In 406 cases of accidental trauma and surgery Pilcher gave hypodermic injections of ephedrine and atropine as a prophylactic against thrombosis and pulmonary embolism. The injections were given on the fifth, seventh and ninth days after the accident or after the operation. The incidence of thrombosis and embolism was approximately the same as in a control series of 1,265 cases.

Sulfapyridine for Pneumococcic Meningitis.—In their case of pneumococcic meningitis in which McAlpine and Thomas gave sulfapyridine the onset was abrupt. Treatment with the drug was begun on the third day. At the end of thirty-six hours the temperature had fallen to normal in the morning and remained so, apart from a slight evening rise, for the next three

days. The signs of meningitis rapidly cleared up and finally disappeared on the fifth day of treatment after 19 Gm. of the drug had been given. The total amount of sulfapyridine given was 25.5 Gm. over a period of seven days. The highest concentration of the drug in the cerebrospinal fluid was 3 mg. per hundred cubic centimeters.

1: 803-858 (April 8) 1939

The Listerian Idea in 1939. R. Leriche.—p. 803.
Potassium and the T Wave of the Electrocardiogram. W. A. R. Thomson.—p. 808.
Indications for Adhesion Cutting in Artificial Pneumothorax, with Results of Fifty Consecutive Thoracoscopies. J. Smart.—p. 812.
*Illness Occurring in Contacts with Confluent Smallpox. E. T. Conybeare.—p. 813.
Extensive Thrombosis After Pentothal Sodium Injection. R. T. Payne.—p. 816.
Femoral Hernioplasty. E. M. Cowell.—p. 816.
Postpartum Necrosis of Anterior Pituitary Production of Subsequent Pregnancy. H. L. Sheehan and R. Murdoch.—p. 818.
Rapid Tuberculin Test. H. Sutherland.—p. 820.
Bacillus Pyocyaneus Infections: Case Treated with Sulfanilamide. W. Stewart and T. Bates.—p. 820.
Venous Hum in Bilharzial Cirrhosis of Liver. M. R. Kenawy.—p. 821.

Illness in Contacts with Confluent Smallpox.—Conybeare reports the more or less simultaneous occurrence of a febrile illness in seven among sixteen contacts of a single fatal case of smallpox. The circumstances suggested that a single pathogenic agent was the cause, encountered during contact with the patient with smallpox. The symptoms were similar in all the persons affected. Symptoms or signs suggesting that a bacterial agent caused the illness were entirely absent. The almost complete absence of localizing signs in the respiratory tract or lungs and the lack of spread to family or other contacts appeared to exclude epidemic influenza. The illness may have been a modified form of smallpox. In two patients there were cutaneous eruptions, and in one the appearance, course and distribution of the rash were consistent with a diagnosis of variola. The apparent incubation period in this patient was seven days, which was also the average apparent incubation period of the whole group. If the illness was a form of smallpox, it is noted that none of the patients infected contacts. The immediate seven contacts were familial and, with one exception, all were successfully vaccinated or revaccinated in time to obtain protection if the illness was smallpox. Therefore failure to infect others is not conclusive evidence against the illness described having been smallpox in a modified form. The experience of the one contact who was not revaccinated during the interval between contact and illness was similar to that of the six who were. This appeared to exclude the possibility that the illness was a form of vaccinia. The last successful revaccination of this person was in 1922, and in him the result of a revaccination after the illness appeared to be important. Accordingly, approximately four months afterward he was revaccinated in one insertion on the left upper arm. The resulting reaction reached a maximum and in four days took the form of a small vesicle, indicating partial retrogression toward susceptibility to smallpox and vaccinia. This does not exclude the possibility that the illness experienced by him in March 1938 was a form of smallpox. Absence of the characteristic eruption might have been associated with failure to develop a complete immunity to vaccinia. It may be concluded from the foregoing that a careful observation of a nonspecific illness occurring within the usual period of incubation in vaccinated or unvaccinated smallpox contacts might reveal factors of considerable importance in the epidemiology of the disease.

Medical Journal of Australia, Sydney

1: 491-528 (April 1) 1939

Investigation of the Patterson Test for Chemical Diagnosis of Pregnancy. Vera I. Krieger.—p. 494.
"Cardiazol" Convulsion Therapy in Psychoses. W. S. Dawson.—p. 497.
Pneumonectomy: Partial (Lobectomy) and Complete. C. J. O. Brown.—p. 502.
*Pneumococcic Peritonitis in Children. S. Williams.—p. 506.
Comparative Study of Some Recent Serologic Tests for Syphilis. E. A. North.—p. 509.

Pneumococcic Peritonitis in Children.—Williams points out that over a period of ten years there were forty-five cases of pneumococcic peritonitis. Fourteen of these were secondary to a primary disease in other sites than the peritoneum. The remainder were primary or idiopathic. The secondary cases were due to a septicemia from a pulmonary infection in all but one case; in this instance the primary focus was in the petrous temporal bone associated with a pneumococcic meningitis. There is a mortality rate of 80 per cent. Figures show that in secondary pneumococcic peritonitis there is an equal sex distribution. Of the primary cases of pneumococcic peritonitis twenty-nine occurred in girls. The diagnosis was confirmed bacteriologically. The condition should be borne in mind in the differential diagnosis of acute appendicitis, particularly in girls who are extremely ill soon after the first appearance of symptoms. Surgical intervention will usually be required. When the diagnosis is fairly certain without operation, the operation is better delayed and may not be necessary. A diagnostic abdominal paracentesis with examination of the peritoneal fluid for pneumococci may be of value. If immediate treatment is undertaken, the patient is placed in full Fowler's position and given a free fluid diet. If abdominal distention occurs and there is associated vomiting or dehydration, with or without diarrhea, continuous intravenous injection of 5 per cent dextrose in saline solution can be given. Continued abdominal distention and gastric dilatation may be treated by continuous gastric drainage. The use of sulfapyridine in a dose of 15 grains (1 Gm.) per 20 pounds (9 Kg.) of body weight per day may be expected to exert a specific effect on this type of infection, similar to that seen in respiratory pneumococcic infections. Ten thousand units (15 cc.) of Felton's typed serum may be given intravenously and repeated twice a day for five days or until signs of improvement occur. A survey of the clinical reports of primary pneumococcic peritonitis suggests that the usual mode of entry of the pneumococcus is by way of the pelvis. This is also borne out by the sex incidence. If the pus becomes localized to one particular site in the abdomen, operation is indicated.

Chinese Medical Journal, Peiping

55: 201-300 (March) 1939

Statistical and Mycologic Studies of Dermatomycoses Observed in Peiping. J. W. Mu and T. J. Kurotchkin.—p. 201.
Simple Micro Method for Determination of Erythrocyte Sedimentation Rate in Children. C. Y. Wang and F. T. Chu.—p. 220.
Isolation of Murine Typhus Rickettsia from House Rats in Peiping. C. J. Wu and S. H. Zia.—p. 231.
*Studies on Virus of Human Influenza. C. H. Yen.—p. 239.
Plague Work in Fukien: IV. Preventive Measures Adopted for Control of Plague at Lungyen. Y. N. Yang, E. Landauer, C. K. Koo and P. C. Lin.—p. 262.

Virus of Human Influenza.—Yen states that studies of recent years clearly establish the virus etiology of epidemic influenza. It is more than likely that many conditions clinically resembling epidemic influenza have been called epidemic influenza. Thus, in order to avoid such confusion in the future, one may have to limit the definition of epidemic influenza to a disease for which a specific virus of Smith, Andrewes and Laidlaw is responsible. The diagnosis can be established by isolating the virus and transmitting it directly to ferrets, mice, embryonic chick tissue medium and chorio-allantoic membranes or by the virus neutralization test and complement fixation test of serums. Burnet has indicated that the pathogenicity of the virus is alterable on repeated animal passage and cultural environment. Man, ferrets, swine, hedgehogs, white mice, Chinese minks and David's squirrel were found to be susceptible to experimental infection with the virus. The first four respond to the virus infection with acute symptoms of the upper part of the respiratory tract and the induced disease is contagious, while the remaining species show involvement of the lower part of the respiratory tract, and the induced disease is noncontagious. Rats, guinea pigs, rabbits and monkeys respond with inapparent infection or with mild inconsistent symptoms. Active immunity or circulating antibodies can be demonstrated in all the species of animals. The popular belief of frequent repeated attacks of epidemic influenza in the same individual should be reinvestigated. Despite the fact that solid immunity in animals is obtainable after infection with the virus, the exact duration of immunity in man is not yet accurately known. Although specific serum therapy in experimental animals seems encouraging, giving rise to a protective immunity, its possible application in human cases has not been determined.

Archives des Maladies de l'Appareil Digestif, Paris

29: 241-352 (March) 1939

*Pyloric Stenosis of Cholecystic Origin. J. Baumel and H. Serre.—p. 241.
Contribution to Study of Induced Hyperglycemia: Capillary and Venous Glycemia. I. Blitstein.—p. 268.

Pyloric Stenosis of Cholecystic Origin.—Under the term pyloric stenosis of cholecystic origin, Baumel and Serre discuss the organic stenoses of the pylorus and of the juxtapyloric region of the duodenum, which are caused by a cholecystic disorder. Among the various factors that may cause them, two are of primary importance: calculus and perivisceritis. Spasm and pyloroduodenitis are well known adjuvant causes. Three factors have an essential part in the pathogenesis: mechanical, infectious and spasmodic. The symptomatology is characterized by the usual signs of pyloric stenosis and by cholecystic symptoms which are helpful for the diagnosis. On the basis of the etiology, several clinical forms can be differentiated. The authors mention (1) the stenosis that is caused by cholecystic compression, (2) the stenosis that is caused by cholecystoduodenal fistula with impacted calculus (type Bouveret), (3) the stenosis caused by pericholecystitis of lithiasic or nonlithiasic origin and (4) the stenosis caused by postoperative perivisceritis. The symptomatology permits the differentiation of many clinical forms. Among the symptomatic varieties which are especially likely to cause diagnostic difficulties it is necessary to remember the forms without vomiting, the forms without cholecystic symptoms in the past and the associated forms. As regards the evolution, two forms can be distinguished: spasmodic stenoses, which cease in response to medical treatment, and the surgical forms, in which the mechanical element predominates. The prognosis is grave if no intervention is undertaken and remains serious in spite of an operation. The diagnosis has to be based chiefly on the anamnesis, the associated symptoms and the absence of signs of ulcer and cancer. The differentiation from cancerous stenoses is often difficult and perhaps can be decided only by an operation. After a trial has been made with medical treatment, surgery is advisable in the form of a gastro-enterostomy or a cholecystic procedure; both of these operations may be advisable, either simultaneously or successively.

Journal de Chirurgie, Paris

53: 593-736 (May) 1939

Disseminated Fibrogeodic Osteitis with Cutaneous Pigmentation and Pubertas Praecox: Case. H. Mondor, R. Ducroquet, L. Leger and G. Laurence.—p. 593.
*Contribution to Study of Craniocerebral Traumatisms: Pathology of Subdural Space. J. Rossier.—p. 625.
Section of Erector Nerves by Gluteal Route. J. Ginestié and A. Delmas.—p. 650.

Subdural Space in Craniocerebral Traumatisms.—Rossier reports several clinical histories which illustrate the surgical pathology of the subdural space and also throw light on the pathogenesis of the subdural hematoma. The first observation reveals that after a grave trauma the subdural space may be filled with almost pure blood. This patient presented a veritable subdural hemorrhage. In a less grave lesion the author saw the subdural space filled with cerebrospinal fluid; that is, a subdural hygroma existed (second case). He also observed a typical example of subdural hematoma arising probably from a hemorrhage into the subdural space and from its organization (third observation). Finally he observed a case of endogenic hemorrhagic pachymeningitis (fourth observation). The role of the traumatism is of theoretical as well as of practical interest. In three of the reported cases the role assumed by the trauma cannot be denied and although in the other case it can be doubted, either because it was sustained long ago and was not followed by symptoms immediately or because it was slight, the author believes nevertheless that it is necessary to concede the causal role of traumatism in the development of a subdural hemorrhage in a healthy person. The author has been able to show that a cerebral edema can be provoked by a trauma that was not directly followed by symptoms of commotio cerebri. A mild trauma can cause a hemorrhage into the subdural space without at first producing symptoms. That in a more advanced stage the histologic aspects may be exactly like those of a hemorrhagic pachymeningitis is not very surprising. This is only the manifestation of the monotony of reactions of a given tissue to an irritating agent which remains the same: extravasation of blood either into the subdural space (traumatism) or into the thickness of the dura mater itself (pachymeningitis). If it is admitted that the blood which is found in the subdural space after a venous hemorrhage can become absorbed only by the action of the dura mater, it can be understood that at the time when this resorption begins the same conditions exist which mark the onset of a hemorrhagic pachymeningitis: the presence of products of sanguineous disintegration in the dura mater. From that time the two disorders, the traumatic and the dyscrasic, evolve in an identical manner. Thus the two disorders can be differentiated only at the beginning. The traumatic origin adds a subdural phase characterized at first by a free hemorrhage, then by a clot and finally by the organization of the latter. From the moment when the clot is covered by a fibroblastic coating, it can be said that thereafter everything develops as if the abnormally fragile vessels of the dura mater had caused an intradural hemorrhage. Another important aspect is that the process evolves in a closed space; in other words, certain conditions of slow resorption must be preserved. On the other hand, if the accident causes a laceration of the arachnoid, as in one of the described cases, there results a disorder which does not correspond anatomically to the subdural hematoma but which may simulate it clinically. The author summarizes the pathologic aspects of the subdural space by stating that it may contain pure cerebrospinal fluid or a mixture with blood, recent hemorrhages and old hemorrhages having evolved in a manner peculiar to the subdural space. He emphasizes that the term subdural hematoma should be restricted to the posttraumatic disorder and should not be applied to the hemorrhagic pachymeningitis of other origins. In remarks about the treatment of subdural hematoma, he stresses that it should be opened and the drainage should be continued for a sufficient length of time so that the brain will regain its normal volume and the subdural cavity its spatial character.

Presse Médicale, Paris

47: 593-608 (April 19) 1939

*Nervous Complication of Nicolas Favre Disease (Venereal Lymphogranuloma). Lévy-Valensi and S. de Sèze.—p. 593.
Physicochemical and Immunologic Investigations on Blood of Aged Persons. R. Pierret, A. Breton and L. Christiaens.—p. 594.

Nervous Complications of Venereal Lymphogranuloma.—Lévy-Valensi and de Sèze show that, until now, little attention has been given to the nervous manifestations in the course of venereal lymphogranuloma. They think that these nervous complications are less exceptional than is generally believed. Their attention was called to this problem by the appearance of an acute myelitis in the course of a case of venereal lymphogranuloma in which the examination of the cerebrospinal fluid disclosed the presence of Proteus vulgaris. After considering the two possibilities that are suggested by this case, namely that the meningomyelitis was caused by Proteus vulgaris or that it was a true nervous complication of venereal lymphogranuloma, they say that in 1931 Nicolas observed in the course of venereal lymphogranuloma persistent headaches, fever and rigidity of the neck, symptoms which are usually attributed to meningeal processes; von Haam and d'Aunoy observed headaches in the acute stage of the disease; sciatic and crural neuralgias were observed by several authors; intense persistent headaches and fever were observed by Prats in fifty-two of 100 cases of venereal lymphogranuloma. Grave nervous symptoms in the form of flaccid paralysis, epileptiform crises and grave (even fatal) meningo-encephalitis were observed by Marinesco and several others. The authors further cite experimental and biologic studies on the neurotropic power of the virus of venereal lymphogranuloma, pointing out that acute leptomeningitis and meningo-encephalitis have been produced by the virus of venereal lymphogranuloma in certain species of monkeys. In mice the virus has been known to produce, after several passages, a fatal disorder characterized by motor disturbances. In studies on the cerebrospinal fluid of patients with venereal lymphogranuloma, some investigators failed to detect pathologic changes whereas others observed

increased tension, lymphocytosis and positive Pandy and Nonne-Appelt reactions. Investigating the virulence of the cerebrospinal fluid of eight patients with venereal lymphogranuloma, von Haam and d'Aunoy succeeded in two cases in infecting mice by intracerebral inoculation and in carrying the infection through several animal passages. Thus the notion of a clinical neurotropism of the virus of venereal lymphogranuloma, far from having been contradicted by animal experimentation and biologic analysis, has been supported by some of the observations in the course of these studies.

Revue Française de Pédiatrie, Paris

14: 433-544 (No. 5) 1939

Investigations of Erythema Nodosum. R. Debré, A. Saenz, R. Broca and R. Mallet.—p. 433.
Investigations of Glycogenesis. F. Goldmann.—p. 494.
*Treatment of Acute Anterior Poliomyelitis with Cerebrospinal Serum from Convalescing Patients. R. Meyer.—p. 517.

Treatment of Acute Anterior Poliomyelitis. — Meyer reports the use of cerebrospinal fluid from convalescing persons in the treatment of thirteen unselected children in the child clinic of Strasbourg. The children, who ranged in age from 5 months to 5 years (one aged 10 and one aged 12 years), had entered the clinic before the seventh day of their illness and with fever. The first day from 30 to 50 cc. was injected, half intravenously, half intramuscularly. The following two days another injection was made of about 33 cc., in all about 100 cc. The author advises preliminary intravenous injection of a hypertonic solution like sodium chloride in grave cerebral conditions. The author recounts among the advantages of his cerebrospinal serum treatment the facility of lumbar puncture and the possibility of immediate use. It does not induce shock reaction and is easily preserved from spoiling. It is more readily obtained from convalescents than from discharged former patients. It can be extracted from infants every two weeks and if necessary, after the acute stage, every week without danger. To appreciate the therapeutic results obtained, the author explains, one must bear in mind the capricious evolution of poliomyelitis from the point of view of functional prognosis. Functional and vital prognoses are more or less independent of each other except when the localization of the lesion is concerned. The two leading factors that control functional prognosis are the duration of the period of invasion and the time during which paralysis establishes itself. No tabular statement could be set up for this because, the author says, in all cases treated by him with cerebrospinal serum of convalescent patients all evolution ceased in less than twenty-four hours. He thinks that cerebrospinal serums from former patients are not so productive of results as serums from convalescing persons. The author includes in his paper the considerations that first led him to use this serum, his experimentation on animals, his observations antecedent to its use and his method of obtaining the serum.

Schweizerische medizinische Wochenschrift, Basel

69: 333-356 (April 15) 1939. Partial Index

Diagnostic Significance of Puncture of Lymph Glands. R. Stahel.—p. 333.
Symptoms of Hypertorsion in Iliosacral Joint: Their Recognition and Treatment. C. Braendli-Wyss.—p. 337.
Leiomyoma of Prostate. J. Wyler.—p. 339.
Latent Jugular Phlebitis as Cause of Stasis in Head. O. Meyer.—p. 340.
*Treatment of Supra-Orbital Neuralgias and of Neuralgic Headache. J. Strebel.—p. 342.
Condition of Exhaustion Under Influence of Summer Climate in Palestine. W. Kahn.—p. 343.
Studies on Metabolism of Vitamin C: New, Simplified Test of Supersaturation. M. Vauthey.—p. 345.

Treatment of Supra-Orbital Neuralgias and Headaches.—Strebel says that the ophthalmologist is often consulted for obscure symptoms of the eye in which examination with Javal's ophthalmometer, the refractometer, the slit lamp, the ophthalmoscope and the phorometer disclose nothing abnormal. Palpation of the incisura supra-orbitalis reveals in many of these cases supra-orbital or trigeminal neuralgia. Before treatment is instituted it is necessary to investigate the cause. Not only should a thorough anamnesis be taken but the teeth, ears and nose with the accessory sinuses should be carefully examined and inflammatory processes in these regions should be treated. Among the various disorders that may lead to supra-orbital neuralgia the author mentions diabetes mellitus and emphasizes that in persistent supra-orbital neuralgia glycosuria should be sought. Other causes are gout, anemia, cachexia, arteriosclerosis, intermittent fever, influenza, typhoid, syphilis and the prolonged action of certain toxins such as lead, mercury, alcohol and nicotine, also rheumatism, colds and psychic shocks. Although the etiologic explanation of supra-orbital neuralgia often brings the effective therapy, it is well known that the customary treatments often fail or require too much time. The treatment suggested by the author consists in the intraneural injection of a 2 per cent solution of procaine hydrochloride with 0.005 per cent of epinephrine. He has used this method in the treatment of neuralgias and neuralgic headaches for the last ten years and has obtained favorable results with it. Two or three injections are generally sufficient. The author also tried the injection of other substances but always returned to procaine hydrochloride with epinephrine as giving the most satisfactory results. Some of the most refractory neuralgias of the head are those which occur in herpes zoster. Here the injection with procaine hydrochloride and epinephrine is not as effective as in the other forms, probably because the neurotropic virus of herpes attacks the nervous substance itself and B vitamins and other factors are necessary for regeneration. However, since the majority of cases of supra-orbital neuralgia can be cured by two or three injections of solution of procaine hydrochloride with epinephrine, the author would not like to dispense with this method.

Giornale Ital. di Dermatologia e Sifilologia, Milan

80: 211-426 (April) 1939. Partial Index

Erythematous Lupus from Focal Infection. B. Cerri.—p. 221.
Epidermolysis Bullosa of Pasini's Albopapuloide Type. R. D. Policaro.—p. 339.
Further Experimental Researches on Arsenical Resistance in Syphilis. F. Lisi.—p. 347.
*Histology of Frei's Reaction. F. Franchi.—p. 369.

Histology of Frei's Reaction.—Franchi found that the lesions induced by Frei's intradermal reaction in patients who are suffering from venereal lymphogranuloma show a typical tuberculoid structure and microscopic aspect. In the tissues examined during the second week after the administration of the Frei antigen there is a predominance of epithelioid cells and of giant cells of the Langhans type over the other types of cells. The author describes the observations of the local nodes or infiltrations induced by intradermal injection of bacterial vaccines in seven patients who were suffering from venereal lymphogranulomatosis and in a normal person (control). All the patients had a strong positive reaction to Frei's antigen. The biopsies were performed within the sixth and fourteenth days after vaccination. The cutaneous reaction was clinically similar to Frei's. The microscopic picture was entirely different. In no case was the tuberculoid aspect observed. The reaction was of the simple inflammatory type. The author therefore concluded that the cutaneous reactions induced by nonspecific vaccines in venereal lymphogranulomatosis are of the Brocq type. They are due to nonspecific hyperergia of the skin in venereal lymphogranuloma. The skin reaction to the Frei antigen, on the other hand, is specific. It shows specific allergy of the skin of the patients and a specific behavior of the skin to Frei's antigen.

Rivista Italiana di Ginecologia, Bologna

22: 141-248 (March) 1939. Partial Index

Endocrine Preparations in Toxicoses in Pregnancy. M. Luisi.—p. 172.
*Results of Conservation of Adnexa in Abdominal Gynecologic Operations. F. Condorelli.—p. 185.
Early Mechanical Ileus: Postlaparotomy in Gynecologic Work. A. Salvini.—p. 222.

Conservation of Adnexa in Abdominal Hysterectomy.—Condorelli observed the late results of hysterectomy in eighty-seven cases in which operation had been performed during the years 1932-1937. The cases were placed in two groups. The operation was indicated in the majority of the cases by fibroma of the uterus, simple or complicated with other genital diseases. All the patients were under the age of 40 when they had the operation, which consisted of hysterectomy either alone or in association with unilateral or bilateral adnexectomy (first and

second groups respectively). In a large number of cases in each group the general condition of the patients improved after the operation. The nervous and cardiovascular symptoms of ovarian insufficiency which may complicate the operation were more frequent and acute in the cases in the second group (hysteroovariectomy) than in those in the first group (simple hysterectomy or hysterectomy associated with unilateral adnexectomy). The libido was conserved in a large number of cases in the first group and in a small number of cases in the second group. Eight patients who had the operation with conservation of the neck and a small portion of the uterus and either one or both adnexa regained menstruation and were the only ones who did not suffer from late symptoms of ovarian insufficiency. The author concludes that the preservation or removal of the adnexa during hysterectomy has proper indications. In general, however, the preservation of the adnexa is of advantage. The best results of hysterectomy are those in which a piece of the uterus (provided with uterine mucosa), as well as one or both adnexa are left in place. Complete removal of the uterus has an unfavorable effect on the nutritional conditions of the ovary. It is followed by symptoms of ovarian insufficiency, which are more acute in bilateral than in unilateral adnexectomy. The development of tumors or of other complications in the adnexa after hysterectomy is rare and it is not related to the operation.

Settimana Medica, Palermo

27: 261-290 (March 2) 1939

*Bactericidal Power of Total Blood to Several Pathogenic Bacteria from Sulfanilamide Treatment: Experiments. A. Naccari.—p. 267.
Unilateral Metastasic Gonorrheal Conjunctivitis: Case. D. Arcudi.—p. 269.

Bactericidal Power of Total Blood of Rabbits After Sulfanilamide.—Naccari determined the bactericidal power of the total blood of rabbits for certain pathogenic bacteria before and after administration of sulfanilamide. The drug was administered by the intramuscular route in daily doses of from 0.008 to 0.017 Gm. per kilogram of body weight for five consecutive days. The author found that, before administration of any treatment, the bactericidal power of the total blood of rabbits is strong against colon bacilli and Eberthella typhi, moderate against staphylococci, scanty against streptococci and Fränkel's diplococci and nil against paratyphoid B bacteria. After the treatment the bactericidal power of the blood of the animals becomes strong against streptococci, slightly increases against staphylococci and either diminishes or changes not at all for Fränkel's diplococci and for bacteria of the colon, typhoid and paratyphoid groups. The author therefore concludes that the bactericidal action of sulfanilamide against streptococci is specific. He believes that the drug, when it is injected into living animals or man, induces an organic reaction during which it is transformed into a chemical compound of specific bactericidal effect against streptococci.

Archiv für Dermatologie und Syphilis, Berlin

178: 501-606 (March 18) 1939

Various Modes of Development of Mycosis Fungoides with Special Consideration of Atypical Cases. P. Berggreen.—p. 501.
Studies on Palligen Provocation. H. T. Schreus.—p. 550.
*Carriers of Gonococci. W. Burger.—p. 562.
Lepra Mixta. S. Tappeiner.—p. 570.
Osler's Disease. H. Hottenroth.—p. 582.
Influence of Caffeine and Coffee on Cutaneous Temperature and Perspiratio Insensibilis. R. Schmid.—p. 593.

Carriers of Gonococci.—Burger applies the term gonococcus carrier only to those persons in whom the gonococci apparently are mere parasites; that is, the gonococci cause no symptoms, in spite of the fact that they have been demonstrated by microscopic examination or by the culture method. If the term carriers of gonococci is restricted to such cases, their number is comparatively small, but in recent times they seem to have been observed slightly more often, probably as the result of more exact methods of examination. The author reviews cases described by other investigators and then describes two of his own observations, both of which proved to be sources of gonococcic infection. Microscopic examination disclosed gonococci in only one of the carriers; the culture method revealed them in both carriers, but only for a short time. That the organisms were truly the causal agents of gonorrhea was demonstrated by means of the fermentation of dextrose and by the fact that they did not grow in ordinary agar. The author points out that it might be suggested that in both women an attack of gonorrhea had been cured spontaneously; however, he shows that this is not very likely. In the concluding summary he emphasizes that carriers of gonococci are rare, but perhaps more frequent than was assumed hitherto. He thinks that the suspicion that a person is a carrier of gonococci should arise whenever, in spite of careful microscopic examination, gonococci are not detected although they are demonstrable with the culture method. If this is so, the possibility that they are pseudogonococci must be ruled out by the fermentation test and by inoculation into ordinary agar.

Monatsschrift für Kinderheilkunde, Berlin

77: 315-441 (March 16) 1939. Partial Index

Xanthelasmatosis in Early Childhood. K. Soehring.—p. 315.
Comparison of Vitamin Action of Bacterium Bifidum, Dry Yeast and Bacterium Coli in Pigeons with Beriberi (Fed with Rice). E. Reichelt.—p. 327.
Technic of Roentgenologic Examination of Thoracic Organs in Children. L. Schall.—p. 336.
Nontuberculous Cavities in Thorax of Children. H. Brügger.—p. 372.
Value of Tomogram in Differential Diagnosis of Pulmonary Abscesses and Empyemas. H.-A. Simon.—p. 391.
Treatment of Bronchiectasis and of Suppurating Bronchitis. E. Fach.—p. 394.
*Epidemiology of Streptococcic Diseases. H. Kleinschmidt.—p. 397.

Epidemiology of Streptococcic Diseases.—Kleinschmidt reports that of approximately 100 children who were born in a maternity hospital during the time between Jan. 6 and Feb. 13, 1938, fourteen became seriously ill with streptococcic diseases of various types between the second and the twentieth day of life and eleven of them died. Since some of the nurslings did not show symptoms until after they had been discharged from the hospital and since the symptoms varied, the connection between the disorders was not recognized at first and the etiology remained obscure. Later, however, the connections became clear. Two of the puerperal women developed scarlet fever, one in the maternity hospital and the other one after discharge from the hospital. Studies on the personnel of the maternity ward revealed that, of ten nurses and maids, three were carriers of hemolytic streptococci. A table listing the newborn who contracted streptococcic disorders indicates that six had erysipelas, six suppurating peritonitis and two pneumonia. The three nurslings who survived had erysipelas, which was treated with prontosil. The other three nurslings with erysipelas were hospitalized too late. They died shortly after. The two nurslings with pneumonia, one of whom had also pleural empyema, and the six with peritonitis died. Culture filtrates of hemolytic streptococci that were obtained from the peritoneal pus of three of the children, when injected intracutaneously in a dilution of 1:1,000, produced strong cutaneous reactions neutralizable by scarlatinal convalescent serum; that is, they contained a considerable amount of Dick toxin. The author concludes from these observations that the hemolytic streptococci of scarlet fever may give rise to disorders of a different symptomatology and that the causal organisms of erysipelas do not have a special position.

Münchener medizinische Wochenschrift, Munich

86: 433-480 (March 24) 1939. Partial Index

Experiments with Quinidine-Synephrin in Treatment of Auricular Fibrillation. W. Stepp and L. L. Kirchmann.—p. 433.
Animal Experiments on Cyren (Dioxydiethyl-Stilben), a Synthetic Compound with Action of Female Sex Hormone. W. Grab.—p. 436.
*Treatment of Severe Burns with Adrenal Cortex and Vitamin C in Animal Experiment and on Patients. E. Einhauser.—p. 441.
Synthetic Hormone of Adrenal Cortex, Cortenil. G. Ehrhart, H. Ruschig and R. Rigler.—p. 444.
Necrotic Formations with Fatal Hemorrhage from Vascular Arrosion Following Intramuscular Injection of Quinine Solutions in Patients with Pneumonia. R. Wigand.—p. 450.

Adrenal Cortex and Vitamin C in Treatment of Burns.—Einhauser shows that, in burns, intoxication with the products of the decomposition of protein plays an important part. This intoxication leads to conditions which inhibit the exchange between blood and tissues; among others, the adrenal cortex becomes impaired. The author was able to demonstrate in animal experiments the importance of the adrenal cortex and of vitamin C for the cure of burns and so he decided to resort to this treatment in patients with burns. He reports the history of a boy aged 13 who sustained second and third degree

burns that covered 55 per cent of the body surface, the third degree burns covering approximately 30 per cent. The burns were cared for in the usual way but the boy was given also five times daily, at intervals of three hours, injections of adrenal cortex extract and twice daily injections of ascorbic acid. This treatment with adrenal cortex extract and with vitamin C was continued for three weeks. Moreover, blood transfusions were given repeatedly; sixteen were made during the first five weeks. The clinical course was changeable but the patient survived and ten months after the accident the improvement was still progressing. The author thinks that this therapeutic success was at least partly due to the administration of adrenal cortex extract and to the administration of vitamin C. He found the combined administration of adrenal cortex extract and of vitamin C effective in other patients with severe burns and thinks that his experiences justify the use of this treatment on a larger material.

Wiener klinische Wochenschrift, Vienna

52: 309-328 (March 31) 1939. Partial Index

Practical Significance of Doctrine of Focal Infection. H. Assmann.—p. 309.
*Calcium Therapy in Rhinolaryngology. E. Jents.—p. 312.
Etiology of Dupuytren's Contraction. E. Reichle.—p. 315.
Oil of Mirbane Poisoning: Case. L. Walterskirchen.—p. 317.

Calcium Therapy in Rhinolaryngology.—Jents reports the successful use of a calcium preparation in the clinical treatment of twelve patients. Treatment was both oral and parenteral. The author's purpose was to test the pharmacodynamic value of calcium, which laryngologically has assumed increased significance in various ways as a hemostatic, as regulatory of disturbances of the autonomic system and in checking exudation. Calcium treatments were administered to patients in three different pathologic conditions: 1. Three patients whose anamnesis and blood morphology indicated a high susceptibility to bleeding and on whom tonsillectomy and adenotomy could not be performed without danger. Blood coagulability was successfully conditioned by oral or intramuscular doses of calcium preparatory to surgical operation. Even large doses, the author states, did not cause tissue impairment; on the other hand, doses had to be slowly administered to allow for satisfactory absorption. However, in certain cases calcium treatments failed and surgical intervention had to be abandoned. He suggests that in such cases the calcium therapy be supplemented with a diet excluding meat and foods rich in sodium chloride. 2. In two patients with spontaneous or traumatic epistaxis, intravenous and intramuscular injections of calcium brought favorable results. 3. In seven patients with serious laryngeal or pharyngeal edemas of varying genesis, intravenous or intramuscular applications of calcium in some instances produced almost phenomenal reactions in causing the edema to disappear. The author concludes that calcium was found valuable in conditioning the blood preliminary to surgical operations, in inducing hemostasis in spontaneous and traumatic lesions, and in effective control of acute edemas.

Zeitschrift f. Geburtshülfe u. Gynäkologie, Stuttgart

118: 345-552 (March 14) 1939. Partial Index

*Experimental Studies of K: Ca Quotient in Serum and K: Ca Content of Growing Fetus During Pregnancy and Modification of Both Factors by Calcium Lactate and Ascorbic Acid. H. Winkler and H. Fritsche.—p. 345.
Pathogenesis, Prevention and Treatment of Gestoses. H. van der Hoeven.—p. 364.
Provision of Pregnant and Lactating Women with Vitamin C During Summer. W. Neuweiler.—p. 385.
Studies on Antigonadotropic Substance. K. Takahashia.—p. 391.
Fate of 683 Premature Deliveries. K. W. Schultze.—p. 405.
Deformities of Extremities After Delivery in Uterus Without Amniotic Fluid. Marianne Militor.—p. 447.
Nineteen Cases of Endometriosis. H. Reich.—p. 469.

Potassium and Calcium in Maternal Serum and in Fetus.—Winkler and Fritsche studied the potassium and the calcium content in the serum of pregnant rabbits and in the fetuses of rabbits and investigated to what extent these values can be influenced by the administration of calcium lactate and ascorbic acid. They found that the potassium content of the serum is reduced as the pregnancy advances. The concentration of potassium in the embryonal tissues, which indicates the intensity of growth in the fetal and placental tissues, decreases toward the end of pregnancy. A modification of the potassium-calcium metabolism by the administration of calcium lactate and ascorbic acid could be detected neither in the maternal serum nor in the fetal tissues. Although it has been demonstrated that in case of bone fractures the administration of ascorbic acid results in increased calcium deposits at the site of regeneration of the bone, in the fetal skeleton such an increase in calcium deposits is not observed after the administration of ascorbic acid. The concentration of calcium in the fetal tissue runs parallel with the advancement of the pregnancy and is approximately proportional to the absolute increase in weight. Since the administration of calcium lactate and of ascorbic acid had been found to exert no influence on the potassium-calcium metabolism of the fetus, the authors decided to investigate whether this metabolism could be influenced by depriving the mother animals of calcium as well as of vitamin C. No changes were observed when this was done, and so the authors conclude that it is impossible to modify the intra-uterine development of the fetus by additional administration of calcium and ascorbic acid.

Orvosi Hetilap, Budapest

83: 357-380 (April 15) 1939. Partial Index

*Dietetic Therapy of Polycythemia: Summary of Nineteen Cases. F. Herzog and G. Kleiner.—p. 357.
Determination of Histamine-like Substances in Blood of Persons Affected with Allergy. K. Hajós, P. Faragó and A. Falus.—p. 358.
New Therapy for Intestinal Ulcer and Hyperacid Gastric Catarrh. I. Weidlinger.—p. 360.
Application of Vitamin B_1 in Treating Hypovitaminosis of the Eye. Ida Czukrász.—p. 365.

Dietetic Therapy of Polycythemia.—Favorable reaction to diet poor in animal albumin had been observed by Herzog and Kleiner in seven cases of polycythemia several years ago. The patients consumed a daily average of 0.7 Gm. of animal albumin only. The authors observed complete or nearly complete improvement in the number of red corpuscles and hemoglobin content after a short interval. High blood pressure decreased and the spleen became smaller in some cases. Microcytosis ceased and the number of reticulocytes decreased. As soon as the patients' condition improved they were able to follow a less strict diet without ill effects (1 pint of milk, 100 Gm. of cheese, 200 Gm. of fish daily; three eggs or 150 Gm. of veal twice weekly). Since then the authors have observed the good effects of the diet in twelve additional cases. The diet has been followed by favorable reaction in seventeen of the nineteen cases; the blood picture showed no improvement in only two cases. The number of blood corpuscles became normal or near normal in fifteen and subnormal in two cases. Definite decrease of red corpuscles had been noted in many cases at the end of the first, in others at the end of the second or third week, or even later.

Sovetskiy Vrachebnyy Zhurnal, Leningrad

March 15, 1939 (No. 5) Pp. 241-320. Partial Index

*Treatment of Puerperal Sepsis with Multiple Transfusions of Placental Blood. G. M. Shpolyanskiy.—p. 245.
Clinical Course of Pneumonia of Children During 1936 Epidemic of Grip. M. M. Varshavskaya.—p. 249.
Blood Picture and Thrombocytes in C Avitaminosis. K. I. Stepashkina.—p. 259.
Protein Reaction After Blood Transfusion in Tuberculous Patients. G. Kasumov.—p. 263.
Spotted Typhus Recurrence. E. G. Popkova.—p. 267.
Eye Complications in Plasmocid Poisoning. Ya. P. Gekker.—p. 269.

Placental Blood Transfusions in Puerperal Sepsis.—Shpolyanskiy states that, of the seventy-two patients with puerperal sepsis who were treated with multiple transfusions of placental blood, eight died, giving a mortality rate of 11 per cent. Omission from this number of two patients admitted in a moribund condition would reduce this mortality rate to 8.5 per cent. Blood studies in the course of the disease revealed that under the influence of multiple transfusions the usual development of anemia was prevented. The number of erythrocytes in patients not given transfusions falls as low as 1 million or less; in the patients given transfusion the lowest number was 2.2 million, which rose to 4.2 million by the time the temperature returned to normal. The author adopted the following method of treatment: Transfusions of about 100 cc. of placental blood were given every other day, in severe cases

every day, until the return to normal temperature. Massive transfusions were avoided in order not to place too great demands on a debilitated organism. The transfusions may be continued for a long period. One of the author's patients, suffering from a severe hemolytic streptococcus septicopyemia, was given thirty-six transfusions (3 liters), and another patient who had had forty-two chills was given twenty-eight transfusions (2,800 cc.). Both patients recovered. The earlier the transfusions, the better the chance for recovery. Abortive effect was frequently observed when this therapy was begun after the first or second chill or after the second or third day of fever. Cases in which this therapy is delayed frequently go on to formation of metastatic abscesses, particularly in the lungs. Thrombophlebitis, pulmonary infarct, pneumonia and toxic lesions of the kidney do not constitute contraindications to blood transfusions. The effect of transfusions on the course of pneumonias is particularly favorable. The author calls attention to the high biologic quality of the placental blood, its high hemoglobin and erythrocyte content, and the presence of numerous hormones and of calcium salts. From 100 to 120 liters of placental blood was obtained in the course of one year in his obstetric department of ninety beds. This amount was adequate for the needs of the entire gynecologic-obstetric clinic.

Geneeskundig Tijdschr. v. Nederl.-Indië, Batavia

79: 771-832 (March 28) 1939. Partial Index

Eye Diseases as Part of Hereditary Familial Systemic Diseases. G. F. Rochat.—p. 771.
Investigations on Rat Polyarthritis: III. Immunity After Infection and After Hyperimmunization. W. A. Collier.—p. 782.
Megalocytic Anemia of Nutritional Origin. H. C. Voorhoeve.—p. 800.
Creeping Eruption in Netherland East Indies Caused by Invasion of Larva of Ancylostoma Braziliense. J. H. Sandground.—p. 805.
Pathogenesis and Therapy of Pregnancy Toxicosis. O. L. E. de Raadt Sr.—p. 817.
*Treatment of Amebic Dysentery and Amebic Hepatitis with Arsphenamine. R. van Wesel.—p. 825.

Arsphenamine for Amebic Dysentery and Hepatitis.—Van Wesel says that about ten years ago he discovered accidentally that the intravenous administration of neoarsphenamine will effect cure in cases of amebic dysentery that prove refractory to other treatments. He says that the simultaneous administration of emetine and chiniofon produces much better results than does their successive administration. The intravenous injections of neoarsphenamine he likewise combines with the administration of chiniofon and emetine. A table, which lists his method of medication over a period of ten days, shows that chiniofon is given every day three times in doses of 0.25 Gm.; emetine is given in doses of 50 mg. three days in succession and thereafter on alternate days; neoarsphenamine is injected on the second, fourth and tenth days in quantities of 0.1, 0.3 and 0.6 Gm., respectively. The author says that this mode of treatment was always successful. Regarding the use of arsphenamine in amebic hepatitis, he says that such cases have been comparatively rare in recent years and that he was able to try arsphenamine in only one case of high fever, severe pain and typical enlargement of the liver. Moderate doses of solu-arsphenamine counteracted all clinical symptoms within a few days. However, in a postscript to this report the author says that the patient later had a recurrence of the hepatic symptoms. To be sure, the administered doses were comparatively small and solu-arsphenamine was used, which the author regards as less effective than neoarsphenamine. He thinks that arsphenamine should be given further trial in the treatment of amebiasis.

Acta Medica Scandinavica, Stockholm

99: 287-386 (March 27) 1939

*Symptoms of Hypophysial Weakness in Cases of Subnormal Weight. W. Kerppola.—p. 287.
Sedimentation Reaction in Weil's Disease: Its Differential Diagnostic Significance. N. Ahlberg.—p. 297.
Clinical Significance of Precardial Thoracic Leads in Electrocardiography. R. Siegel.—p. 324.
Clinical Observations on Octogenarians. K. E. Aaltonen.—p. 356.

Hypophysial Weakness and Subnormal Weight.—In remarks about Simmonds' disease, Kerppola says that, whereas the literature contains many reports about the completely developed cases of this disease, the milder forms of the disease have received little attention. The author decided to investigate whether symptoms of hypophysial weakness can be detected in emaciated persons in whom the subnormal weight cannot be explained by other diseases. He reports studies on forty such patients, whose ages varied between 16 and 45 years. In the anamnestic inquiry attention was given to the appetite, and in the women to the menstruation. In the examination the author determined the height, weight, temperature, pulse and blood pressure. Moreover, the condition of the skin and of the hair was investigated. The sella turcica was studied by means of roentgenoscopy. The basal metabolic rate was determined by means of Krogh's apparatus. The blood was examined for the calcium and chloride content and a complete hemogram was made. The behavior of the blood sugar was determined by means of a tolerance test. Finally, the patients were subjected to a test breakfast and the intestinal function was examined. In the course of these studies it was found that the patients had many symptoms that are characteristic for hypophysial weakness. About half of the patients had a low sugar tolerance curve, a relative lymphocytosis and low hydrochloric acid values. In approximately one third of the patients a relatively small sella turcica, mild anemia and granulocytopenia were observed. Menstrual disturbances, low stature and low metabolic rates were found in a small number of cases. A complex of symptoms characteristic for hypophysial weakness was present only in a limited form and only in a small number of cases. The examined material included forms ranging from complete normality, through all transitional forms to the symptomatology of hypophysial weakness.

Ugeskrift for Læger, Copenhagen

101: 287-314 (March 9) 1939

Hepatitis without Jaundice: II. N. Svith.—p. 287.
*Short Wave Therapy of Rheumatism-like Disorders. A. H. Johansen.—p. 291.
Scarlet Fever-Angina Epidemic Originating from Scarlet Fever-Otitis Media in Milker. E. J. Henningsen and J. Ernst.—p. 298.

Short Wave Therapy of Rheumatism.—Johansen states that short wave therapy has been carried out systematically at the Finsen Institute during the last four years. It has given excellent results in lumbago, ischialgia and rheumatism of the muscles. It has proved useless in spondylitis deformans and osteo-arthritis, with only occasionally a purely palliative effect. In chronic disorders of the joints the method by itself has sufficed only in rare cases, although the palliative results are not to be underrated, but its great value as an integral part of the general treatment of these disorders is emphasized. The results of short wave therapy in twenty-two cases of lumbago, eighteen of ischialgia, forty of rheumatism of the muscles, eight of infectious arthritis and twenty-six of chronic primary progressive polyarthritis are tabulated.

101: 315-342 (March 16) 1939

Relation of Extrapulmonary Tuberculosis to Seasons of Year. C. Dalsgaard.—p. 315.
*Metastatic Hypernephroma in Uvea. M. Fledelius.—p. 321.
Roentgen Treatment of Ulcers. Kramer-Petersen and A. Wagner.—p. 323.
Case of Acidosis Due to Vomiting of Achylic Gastric Contents and Sputum. E. Kirk.—p. 328.

Metastatic Hypernephroma in Uvea.—Fledelius says that metastatic hypernephroma in the uvea is extremely rare. In a man now 56 years of age hematuria set in about ten years ago; two years later the left kidney was extirpated and found to be the seat of a typical hypernephroma. After five years a small tumor appeared in the angle of the jaw and somewhat later a similar tumor developed on the right natis; both were removed a year ago. About a year ago separation of the retina of the left eye was established. On enucleation of the eye the suspected metastatic hypernephroma was verified. The tumor, which was situated in the choroid and was of the size of a hazelnut, had not caused increased tension. Diascleral transillumination had afforded no certain information, as the tumor did not contain pigment. Microscopically the extirpated tumors all presented the same general character. The primary tumor as well as the tumors on the neck and the natis were abundantly supplied with blood vessels, the two metastatic tumors suggesting angiomas. There was an angiomatous formation, ascribed to stasis, in the bulbar conjunctiva, a caput medusae corresponding to the more deeply seated tumor in the uvea. During the ten years the patient's condition was on the whole satisfactory.